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MX MISSILE BASING SYSTEM AND RELATED ISSUES

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MX MISSILE BASING SYSTEM AND RELATED ISSUES

MONDAY, APRIL 18, 1983

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, D.C.

The committee met in open session, pursuant to notice, at 9:35 a.m., in room SD-138, Dirksen Senate Office Building, Senator John Tower (chairman) presiding.

Present: Senators Tower, Thurmond, Goldwater, Warner, Cohen, Wilson, Stennis, Exon, Levin, and Bingaman.

Staff present: James F. McGovern, staff director and chief counsel; James G. Roche, minority staff director; Alan R. Yuspeh, general counsel; Brenda K. Hudson, assistant chief clerk; Willis D. Smith, deputy staff director and chief scientist for the minority; Frank J. Gaffney, George K. Johnson, Jr., and Patrick L. Renehan, professional staff members; Jacquie S. O'Grady, staff assistant; Drew Harker, research assistant; Suzanne Bantz, receptionist.

Also present: Dennis P. Sharon, assistant to Senator Goldwater; John Campbell, assistant to Senator Warner; Ron Kelly, assistant to Senator Humphrey; Jim Dykstra, assistant to Senator Cohen; Hank Steenstra, assistant to Senator Quayle; Ed McGaffigan, assistant to Senator Bingaman; Arnold Punaro, assistant to Senator Nunn; Frank Sullivan, assistant to Senator Stennis; Greg Pallas, assistant to Senator Exon; Peter D. Lennon, assistant to Senator Levin; and Matthew Murray, assistant to Senator Kennedy.

OPENING STATEMENT BY SENATOR JOHN TOWER, CHAIRMAN

Chairman TOWER. The committee will come to order.

This morning we are pleased to welcome members of the President's Commission on Strategic Forces, led by Lt. Gen. Brent Scowcroft, who chaired this panel, as the Committee on Armed Services begins a comprehensive, albeit concentrated, set of hearings concerning the MX missile, its basing system, and related issues.

In addition to General Scowcroft, whose previous Government service includes a distinguished tour as National Security Adviser to President Ford, we are pleased to have appearing today two other distinguished members of General Scowcroft's blue ribbon panel.

Dr. Harold Brown is well known to members of this committee from his past incarnations as Secretary of the Air Force and Secretary of Defense. Dr. Brown served officially as a consultant to the President's Commission. His personal familiarity with and intimate understanding of the issues involved in the modernization and negotiating and controlling of nuclear arms, qualities which made his contributions indispensable to the Scowcroft panel's deliberations, will I am confident, cause his testimony today to similarly be of great value to this committee's present inquiry.

Regrettably, due to prior commitments Dr. Brown will be unable to be present in the afternoon session of this hearing. However, every effort will be made to afford each member of the committee an opportunity to ask questions of Dr. Brown prior to his departure.

Accompanying General Scowcroft and Dr. Brown is Dr. John Deutch, a highly respected scientist and former dean of Massachusetts Institute of Technology. Dr. Deutch's participation in past defense science boards and advisory groups formally established his reputation for full and objective analysis. His reputation is only further enhanced by his collaboration in the President's Commission.

Members of the committee should be advised that Dr. Deutch is obliged to depart at 11:30 to host a luncheon being given by the Scowcroft Commission at the Blair House. But it is my understanding that he will be returning this afternoon at 2 p.m. Questions therefore could be directed to him in the second round.

It is my belief that the President's Commission on Strategic Forces has performed a very significant service to the Nation. It has, in the midst of great confusion and political turmoil, undertaken to provide a clear and comprehensive vision of America's deterrent and arms control policies and the strategic forces required to implement such policies.

While each member of the Armed Services Committee and the full Senate must judge for himself the merits of the Commission report and the proposals contained therein, I believe all of us can concur in an expression of appreciation for the outstanding individuals who made up this panel and gave so freely of their time to perform this highly momentous public service.

General Scowcroft, we appreciate your appearance here this morning and the extent to which you and your colleagues have been able, in the constraints of your various highly demanding schedules, to make yourselves available for this hearing.

We look forward to your elaboration on the findings and recommendations of your panel. And in a moment I will call on you, General Scowcroft. But first let me say that the distinguished ranking member of this committee, Senator Jackson, is unavoidably detained this morning and will not be able to be here.

I would like to yield to Senator Stennis for any remarks that he may have at the outset.

Senator STENNIS. I thank you very much, Mr. Chairman, but I think it is in order to proceed as soon as you are ready.

Chairman TOWER. General, you may proceed as you see fit. It is our intention that we should hear from each member of the panel and then proceed to questions. You may summarize your prepared statements. Prepared statements may be included in full in the record.

In any case, you may proceed as you see fit. General Scowcroft?

STATEMENT OF LT. GEN. BRENT SCOWCROFT, USAF RETIRED, CHAIRMAN OF THE PRESIDENT'S COMMISSION ON STRATEGIC FORCES

General SCOWCROFT. Thank you, Mr. Chairman. It is a pleasure for me and my colleagues to appear before you on behalf of the President's Commission on Strategic Forces and its senior counselors.

Since you do have not only the report, but our prepared statement, I will restrict my opening comments just to a very brief summary of some of the salient points in our report and submit my statement for the record. We framed our report in the context of what we considered the central dilemma of the major issue in which the strategic force problem is embedded, that of coping with Soviet expansionism while preventing the devastation of a nuclear war.

In that context, we discussed the nature and the requirements of deterrence of Soviet expansionism and of war and the manner in which arms control can make a contribution to that deterrence, and in that context we reviewed the great emphasis that the Soviets place on their military forces and on the political utility of those forces as a backdrop for Soviet political designs.

For example, Soviet investment in ICBM forces has been unremittingly heavy. Since the deployment of the last U.S. ICBM, the Minuteman III, the Soviets have deployed the SS-17, the SS-18, and the SS-19—over 600 missiles of MX size or larger, and they are now in the process of testing one, perhaps two, new missiles.

Since the fundamental purpose of U.S. strategic forces is deterrence, it is vital for us to understand fully the importance of military power in the Soviet scheme of things. In response, in order to maintain and enhance that deterrence, the United States has been modernizing its strategic forces. We discuss in our report that modernization and emphasize, of course, ICBM forces, which are at the heart of our current problems with respect to that modernization.

We have recommended what we think is an important new departure. We are proposing new directions, both in ICBM forces and in arms control. That departure fundamentally is to integrate strategic force programs with arms control and to move both of them in the direction of stability.

We would accomplish this through a three-part program. The first part of this program would be the immediate deployment of something like 100 MX missiles, for a number of reasons, some of the more important of which are the following:

To demonstrate U.S. national will and cohesion. We have now had four Presidents who have said that the MX missile is important, if not essential, to our national security. Therefore, failure to carry through with this program would hardly demonstrate to the Soviets that will, which is an essential element of our deterrent posture.

Next, we believe that the MX deployment is essential in order to reduce immediately the substantial imbalance in the capability of U.S. ICBM forces compared to those of the Soviet Union. The Soviets can with their ICBM forces put our strategic forces and other critical targets at risk in a way that the United States cannot begin to match. We feel that some redress of that balance is an important objective.

Also and very importantly, the MX missile, we believe, is essential to induce the Soviets toward negotiations, especially negotiations on an arms control framework which would permit the United States and encourage the Soviet Union to move in the direction of greater stability.

Over the longer run, the Commission proposes engineering design of a small, single warhead missile as the second part of our program, looking toward deployment probably in the early nineties. We believe it should be a single warhead missile in order to reduce the value of the targets, thus making it unremunerative as an objective of attack, and thus enhance the stability of the force. It should be small in order to open up to a maximum degree the opportunities for survivable basing, which we feel almost certainly would include mobile basing.

And finally, in order to provide an environment which will support the deployment of this small missile, a new departure in arms control, is essential. Counting by launchers, as we have in arms control agreements, has perversely led us to the present structure of very high value targets, large missiles each with a number of warheads.

We must, therefore, turn to counting our strategic forces for arms control by warheads and not by launchers. After moving to count launchers, it would be useful to cap or to reduce sharply the numbers, in order that a deployment of very large numbers of these small missiles would not be necessary.

This in turn gets us back to the MX, which we feel is essential to induce the Soviets to negotiate away what is currently a favorable strategic posture for them in their ICBM forces. For this, we believe that the MX deployed in Minuteman silos is an adequate deployment at reasonable cost.

It is true that, whatever the current suvivability of those silos, they are becoming more vulnerable. We do propose a vigorous research and development program in silo hardening, and of course would take advantage of any developments which result from that research, either for the MX missile or conceivably for a basing mode for the small missile.

The fundamental requirement for the survivability of our ICBM force we feel is as a hedge against a Soviet breakthrough in antisubmarine warfare—warfare which would put our submarine-launched ballistic missiles in jeopardy. We do not see that on the horizon at the present time. For the longer run, we are proposing the smaller missile to provide that hedge by enhancing the survivability of the overall ICBM force.

For the present, we believe that silo vulnerability is not so dominant a part of the overall problem to require other immediate steps. We believe that the Soviets must have considerable uncertainty about their operational capabilities, notwithstanding whatever their test accuracies may have indicated to them.

Especially, however, we believe that there is still an important synergistic survivability between the ICBM forces and the bomber forces, in that it is difficult, if not impossible, for the Soviets to attack both simultaneously.

That, Mr. Chairman, is a quick summary of the recommendations contained in the report. We do not claim that this is an optimal solution from every standpoint. If such were available, this Commission probably would not have been convened.

We have tried to construct an approach which is different in kind. We are proposing a major new departure for the United States in the direction of enhanced stability for our strategic forces, an approach which hopefully may permit a consensus to develop to allow us to put the divisiveness of the past, both in arms control and in our ICBM force modernization, behind us and allow us to move forward with a more common perspective in our efforts to preserve both peace and freedom.

Thank you, Mr. Chairman.

[The prepared statement of General Scowcroft follows:]

PREPARED STATEMENT OF LT. GEN. BRENT SCOWCROFT, U.S. AIR FORCE, RETIRED, CHAIRMAN OF THE PRESIDENT'S COMMISSION ON STRATEGIC FORCES

Chairman Tower, Members of the Committee; the President's Commission on Strategic Forces, as established on January third of this year, met over a period of three months in the process of arriving at the recommendations which are contained in the Report. This Report, which was released to the public on Monday, April 11, reflects the advice of numerous counselors and advisors and represents the unanimous position of the members of the Commission.

I understand you have all received a copy of the Report. I will therefore, restrict my comments to a summary of the recommendations of the Commission. My associates and I will then be happy to respond to any questions or comments you may have.

The Report begins by outlining the central dilemma of this major issue—that of coping with Soviet expansionism while preventing the devastation of a nuclear war. The Report then goes on to discuss the nature and requirements of deterrence and the manner in which arms control can make a contribution to that deterrence. It points out that the Soviets place great emphasis on their military forces, at least as a backdrop for their political designs.

As an example, Soviet investment in ICBM forces underscores the importance, in their eyes, of the role that those play. Thus, since the deployment of the last U.S. ICBM—the Minuteman III—the Soviets have deployed the SS–17, SS–18, and SS–19—over 600 missiles of MX size or larger. And they are, now, in the process of testing two new ones.

Since the fundamental purpose of U.S. strategic forces is deterrence, it is vital for us to comprehend fully the importance of military power in the Soviet scheme of things. In response, in order to maintain and enhance deterrence, the United States has been modernizing its strategic forces. The Report discusses that modernization, with emphasis, of course, on ICBM forces—which are at the heart of our current, national problem with respect to strategic force modernization.

Our Report recommends what we feel is an important new departure. We are proposing new directions, both in ICBM forces and in arms control. That new departure, fundamentally, is to integrate strategic force programs with arms control, and to move both in the direction of stability.

We would accomplish this through a three-part program. The first part would be the immediate deployment of something like a hundred MX missiles for a number of reasons, among which are the following:

First, to demonstrate U.S. national will and cohesion. We have now had four Presidents who have said that the MX is important, if not essential, to our national security. Failure to carry through with this program would hardly demonstrate to the Soviets that we have that will which is an essential element of deterrence.

Next, in order to reduce the substantial imbalance in the capability of U.S. ICBM forces compared to those of the Soviet Union. The Soviets can, with their ICBM forces, put our forces and other critical targets at risk in a way that the United States cannot begin to match. This is an important element of instability.

Also, and very importantly, the MX is essential to induce the Soviets toward negotiation, especially negotiations on an arms control framework which would permit us, and encourage them, to move in the direction of greater stability.

For the longer run, the Commission proposes engineering design of a small, single warhead missile as the second part of our program—looking toward deployment probably in the early 1990's. We suggest a single-warhead missile in order to reduce the value of the target, making it unremunerative to attack and, thus, enhanacing the stability of the force—and small in order to open up, to a maximum extent, the opportunities for survivable basing, almost certainly to include mobile basing.

Finally, in order to provide an environment which will support the deployment of a small missile, a new departure in arms control is needed. Counting by launchers has, perversely, led us to the present structure of very high-value targets, large missiles each with a number of warheads.

We must, therefore, turn to counting the forces on both sides by warheads, not by launchers. After moving to count warheads, it would then be useful to cap or reduce the numbers sharply, in order that a deployment of great numbers of small missiles would not be necessary.

This, in turn, gets us back to the MX, which is essential to induce the Soviets to negotiate away what is currently a favorable strategic position for them in ICBM forces. Hopefully, it will as well encourage them to move in the same strategic direction by making clear that their huge missiles in silos are a wasting asset.

For this, we believe that MX deployed in Minuteman silos is an adequate deployment at reasonable cost. It is true that, whatever the current survivability of Minuteman silos, they are becoming more vulnerable. We do propose a vigorous R&D program on silo hardening and, of course, would take advantage of any developments which result from that research, either for the MX or, conceivably, for the small missile.

However, the fundamental requirement for survivability of our ICBM force is as a hedge against a Soviet breakthrough in anti-submarine warfare which could endanger our submarine launched, ballistic missiles. We do not see that on the horizon at the present time. For the longer run, we are proposing the small missile to provide that hedge by enhancing the survivability of the ICBM force.

For the present, we believe that silo vulrenability is not so dominant a part of the overall problem as to require other immediate steps. We believe that the Soviets must have some uncertainties about their operational capabilities, notwithstanding whatever their test accuracies may indicate to them. Especially, however, we believe there still is an important synergistic survivability between the ICBM forces and the bomber forces, in that it is difficult, if not impossible, for the Soviets to attack both of them simultaneously.

That, in brief, is an outline of our recommendations. Few, if any, will consider our recommendations an optimal solution. If such were available, this Commission probably would not have been convened. We have tried to construct an approach which is different in kind. We are proposing a major, new departure for the United States in the direction of enhanced stability for our strategic forces and, hopefully, an approach which will permit a consensus to develop, allowing us to put the divisiveness of the past—both in arms control and in our ICBM force modernization—behind us and ollw us to move forward with a more common perspective in our efforts to preserve both peace and freedom.

Chairman Tower. Thank you, General Scowcroft.

Dr. Brown?

STATEMENT OF DR. HAROLD BROWN, FORMER SECRETARY OF DEFENSE, CONSULTANT TO THE PRESIDENT'S COMMISSION ON STRATEGIC FORCES

Dr. Brown. Thank you, Mr. Chairman.

I will not read a statement, but I will make a few remarks.

The purpose of U.S. strategic forces is deterrence of attack against the United States or our allies, and the next question then is, what does it take to insure deterrence? We need to remember in making a judgment on that matter that we are trying to deter the Soviet leaders from aggressive actions and specifically from nuclear war.

We therefore need to form a judgment on what it is that is so valuable to them that they would be left in no doubt that, whatever kind of nuclear attack they might launch, the U.S. response would leave them worse off in terms of those assets that they consider valuable. And for that reason, I have felt and continue to believe that it is important for U.S. forces to be able to threaten retaliation against the assets that the Soviet leaders appear to prize, which are not only their urban industrial facilities but their nuclear and conventional forces and the hardened shelters that protect their political and military control centers, as well as their own lives.

Why do we need to modernize U.S. ICBM forces to that end? Well, in order to preserve and enhance deterrence, it is important to have a diversity of U.S. strategic forces so that the Soviets would not be able by some single technological advance or tactical maneuver to threaten our ability to retaliate.

That is why not only the submarine-launched ballistic missiles and air breathers, but also intercontinental ballistic missiles, which together make the Soviet planners' task of devising a way to threaten nuclear war and leave in the minds of ourselves, the United States and our allies, the possibility that the Soviets could survive the retaliatory strike.

We want to make that more difficult. The vulnerabilities of the various forces differ. It would be desirable, and in the long run I think we should continue to aim, to have a survivable ICBM force, one that at least would exact a very high price from the Soviets in an attempt to knock it out.

But there is more than one part to the force, and we need to remember that the vulnerability or survivability of the whole force needs to be viewed as a whole, as the vulnerabilities and capabilities of a diverse and complementary force. In particular, we need to avoid a situation in which Soviet advances in antisubmarine warfare might at some time in the future put us into a circumstance where we doubted the survivability of our overall deterrent.

ICBM's have some special capabilities—good communications command and control, retargeting capability, and higher accuracy than other ballistic missile capabilities, and the combination of promptness and hard target capability is an important characteristic.

Finally, we should modernize with arms control and stability in mind. Where does that leave us? Well, the Commission suggests, and I support the idea, that we not try to solve the problem of ICBM vulnerability with a single change, that we try to do something for the long run and something for the short run.

For the long run, trying to achieve lower vulnerability, diversity and stability is probably best served through development of a small, single-warhead ICBM, which could be deployed either in hard silos and/or in hardened, mobile launchers on military bases.

But there are some questions about that. We do not know how hard a mobile, small missile can be made, and we also, I think, would be in a difficult position if we cannot negotiate rather severe limits on the levels of ICBM warheads. If we could not, then the number of single-warhead missiles needed for a force of reasonable capability and survivability would make the system's cost and the amount of land required prohibitively great.

So we have these uncertainties. At the same time, we have a need to respond, after 10 years, to a continued program of ICBM modernization, and for that reason the Commission proposes, and again I would support, a limited deployment of MX missiles in existing Minuteman silos, hardened to some degree if that can be done cost effectively.

That recommendation does not handle the vulnerability problem if that vulnerability problem is seen narrowly as one of ICBM vulnerability. But it does help to begin to address an inequality in a very important part of strategic forces—the land-based ICBM's.

In my judgment neither of these two proposals handles the problem by itself, and indeed there may, as one looks back at history, have been better ways to do this. But I think we are now faced with the situation where we have to proceed from where we are now. Given the history and the political realities, this I believe is the best approach.

Putting MX in multiple protective shelters probably would be technically preferable, and deployment in superhardened shelters—and of course, there are questions about superhardening, too—at some appropriate spacing and with a more modest degree of deceptive basing would probably be workably effective. But I would think that neither is politically feasible from where we are.

Other suggestions have been made: Instead of putting MX in silos, the suggestion is that we could now begin to develop a program to retrofit an improved guidance system in the Minuteman III or to put a suitably modified version of the D-5 in the Minuteman silos. Both of those would take several years longer to deploy than MX. Neither would be as capable in terms of a combination of payload and accuracy.

But I think there is a more fundamental problem with them. In a practical sense, I believe that if the United States does not deploy the MX, it is very unlikely that it will do either of those other things. Remember, we said in the early seventies that we would modernize with the new missile in the late seventies. In the midseventies we said we would do it in the early eighties. In the late seventies we said we would do it in the mideighties.

So far we have not done any of those things, even though during that same period the Soviets were deploying 600 new ICBM's, each with a payload equal to or greater than that of the MX and with accuracies that now match those of the most accurate ICBM's in the U.S. forces. And so to say that the United States will modernize in the early nineties with a strong, single-warhead missile, if you do not do the MX deployment at all in the meantime, it is just not going to be believable. I will not believe it and I doubt that anyone else will, either.

That creates, I think, substantial international political problems, and so I think that the combination of proposals made by the Commission is the right way to proceed. And I say that even while I continue to differ with the administration on some other parts of its strategic nuclear force program, like the B-1, and also on other issues of national security policy.

And I say it even though I recognize that more politically astute decisions in the past, not only by the current administration but by past ones, might have been able to produce a better solution.

But we have all got plenty of responsibility to go around on that score, reaching back into the early seventies. And so I urge that consensus now be built by addition, not by subtraction.

I think we ought to reaffirm our support of the SALT II and ABM treaties. I urge that those who support a single-warhead missile as the correct long-term direction for land-based ICBM's join those who support a limited deployment of MX missiles to settle upon this kind of modernization program and to stick with it. And I also urge that those devoted to strategic arms control and reduction and those devoted to strategic force modernization now join those of us who have always supported both.

Thank you, Mr. Chairman.

Chairman TOWER. Thank you.

Dr. Deutch?

STATEMENT OF DR. JOHN M. DEUTCH, FORMER DEAN, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, MEMBER, PRESIDENT'S COMMISSION ON STRATEGIC FORCES

Dr. DEUTCH. Mr. Chairman, I will be very brief in my remarks, sir.

Let me begin by saying that I believe that the Commission on Strategic Forces has done a very excellent job at setting forth a set of most complicated and difficult issues that every citizen of this country must wrestle with. I believe that there are a variety of issues which are, quite appropriately, going to be debated here and elsewhere in the country, and it has been a privilege to serve with that group.

I would like to restrict my remarks, Mr. Chairman, to one point, and that is about the inseparable character of the recommendations that are being made by the Commission. In my judgment the Commission is proposing a new approach which integrates ICBM modernization with an arms-control strategy. In my view, those two elements must be kept together.

The three elements of the Commission report—the arms-control approach, the placement of 100 MX in Minuteman silos, and the subsequent development of a small, single-warhead ICBM—are inseparable. Taken together, I believe that they lead us toward potentially an era of mutual stability. Taken separately, I think they fail.

In my judgment the single thing that we should keep our eye on is that combined approach, rather than any individual piece of it. What actually happens in the future, as has been mentioned by my colleagues, is highly uncertain. But there is room here, given the strategy the Commission has proposed, for choice by the President, by Congress, and by the Nation.

It will depend upon the success of our arms control efforts, it will depend upon technology developments, and it will depend upon the Soviets' response to our effort to leap toward a new era of stability.

Thank you very much, Mr. Chairman.

Chairman TOWER. Thank you, Mr. Deutch.

Let me suggest that in our question period, even though the questions may be addressed to specific members of the panel, that other members of the panel are invited, and indeed encouraged, to comment as they see fit.

General Scowcroft, the Commission's report explicitly rejects the idea that we can afford the delusion that Soviet leaders, human though they are and cautious though we hope they will be, are going to be deterred by exactly the same concerns that would dissuade us. Now, how much discussion was given in the panel's deliberations to the notion that some minimum deterrent, for example the capability to attack a limited number of Soviet cities, would suffice in providing a reliable deterrent to Soviet attack?

DETERRENCE

General **Scowcroft**. Mr. Chairman, we looked extensively at the nature of deterrence and the requirements for deterrence. Much of the dialog about deterrence in the United States has been an argument among ourselves about what we feel would be an appropriate deterrent. Deterrence is a state of mind, and it is a state of mind that we have to induce, not in ourselves but in the Soviet leadership. It is they who have to make the calculation as to what does and does not make sense if they were to calculate any kind of aggressive behavior.

Therefore, one has to look at the things that they hold dear and the kinds of programs that they are spending large sums of money on, in order to understand their calculus of this very difficult concept. When we look at that, we look at the steps that they have taken, for example, to protect their political and military leadership, steps which really had not been pursued until recently in this country since the days of the Eisenhower administration.

We look at the development of their strategic forces. They could have stopped, for example, with simply an SS-17 force as an adequate balance to our own Minuteman force. They did not do that. They did not do that, not because they simply wanted to spend money. They did it because they are pursuing their own purposes, with their own ideas in mind as to what those forces are relevant for. And it is that context in which we have to consider deterrence.

We believe, therefore, that whatever we may think the character of a nuclear war would be and whatever we think any rational person would be deterred from starting, we have to put ourselves, to the extent we can, in Soviet shoes and look at what would constitute deterrence for them. It was in that context that I think the Commission clearly rejected the idea of minimum deterrence and felt that some kind of equivalence is essential.

Chairman **Tower**. The panel report notes that fixed targets for MIRV'd ICBM's may retain some survivability for a number of years. The report indicates that such survivability as currently exists today in our Minuteman force will continue to decline over time.

For how long does the panel believe the present level of silo survivability will be maintained?

General **Scowcroft**. Mr. Chairman, the exact survivability of the Minuteman force is a subject for conjecture. One has to translate what we know of Soviet ICBM test accuracies into what we can believe might be operational accuracies of putting together an attack which has to work perfectly the first time, without any mistakes, without any misses of any kind.

We feel that there may be a substantial difference between the theoretical and the actual possibility of a disabling strike on our ICBM forces. The major point, however, is that whatever the particular vulnerability of those silos today, they will get increasingly vulnerable as Soviet accuracy increases.

We feel that for the present time it is adequate to put the MX in those silos. We believe that system survivability of the ICBM force will be maintained when we deploy a small single-warhead missile in the nineties, because at that time, assuming it is in a survivable mode, the Soviets will no longer be able to take out our ICBM force simply by attacking some of those. We believe there will be at that time a contingent survivability for those silos.

SINGLE WARHEAD MISSILE

Chairman **Tower**. General, in making a recommendation on the single warhead missile, the smaller missiles, widely deployed for the sake of survivability, what number do you anticipate would be required to force the Soviets into an unfavorable force exchange ratio should they launch a first strike against us?

General **Scowcroft**. I think the numbers of a small missile will depend heavily on negotiations over the interim, on the Soviet response to our MX deployment, and, in particular, on progress we are able to make in an arms control environment.

I do believe that some deployment of a small missile would be advisable regardless of Soviet response. But the numbers and the relationship to other forces, we feel, has to await negotiations with the Soviet Union.

Chairman **Tower**. Did you have a comment on that, Dr. Brown?

Dr. **Brown**. I would support that view. That depends upon design and experiment that has not taken place yet. If a mobile system can be devised which is quite hard, then it might be possible. And I think this is a reasonable bet, to deploy mobile single warhead ICBM's on military bases and to extract from the Soviets a price of perhaps 300 SS-18's to knock them out. That would be a relatively favorable exchange ratio.

On the other hand, if the Soviets continued to rely on MIRV'd large missiles, then it would be difficult for fixed single-warhead missiles to compete with the cost. They are going to be more expensive per warhead than large MIRV'd missiles. So therefore, I do not think we can say now just what the mix would be, either between fixed single-warhead missiles and mobile hardened ones, or between numbers of small single-warhead missiles and large MIRV'd missiles.

It would depend upon Soviet actions, it would depend upon as yet unknown costs and engineering factors, and it would depend upon what we could negotiate in the way of an arms limitation.

Chairman **Tower**. Did the Commission make any specific recommendations to the President to the effect of revising his strategic arms reduction proposal? Was there any consensus on what ways it should be revised?

General SCOWCROFT. We have a general recommendation, Mr. Chairman, that the present launcher limits contained in the President's START talk should be reviewed, based on our feeling that counting by launcher limits, has, in part, contributed to the problems that we are trying to solve now. We did not get more specific than that.

Chairman TOWER. Did you have a comment on that, Dr. Deutch?

Dr. DEUTCH. Mr. Chairman, I believe that the sense of our arms-control approach that we lay out makes it fairly clear that launcher limits, when they do not have the right relationship to warhead limits or their associated total yield limits, will not be a stabilizing move. I believe always a launcher limit should be removed and replaced with the limits to the number of warheads and associated throwweight.

Chairman TOWER. Thank you, gentlemen.

Senator Stennis?

Senator STENNIS. Mr. Chairman, I want to join in with all the sentiment of thanks for these gentlemen for what they have done on this old, complicated problem. As I listen to them, I am impressed with the points they make.

Now, there are several of us on this committee that for years—several years—have been wrestling with this problem as best we knew how. We passed laws that went nearly all the way, but not far enough to implement a basing mode. It is clear now that we did not press hard enough. I am not blaming anyone any more than I blame myself, but it is certainly unanimous here that there is no particular objection to the missile itself; it is within the range at least of what is thought to be needed.

We are talking now about the short run and the long run. You have to talk and think that way, and I am glad you did. And I do not yield to anyone in faith in our institutions—in Congress and the executive branch—but I doubt that we can get together on a long-range program any time soon. We have tried for a long time and it seems to me that we are driven to some kind of short-range program—otherwise sacrificing the triad concept, the frontline of deterrence.

The President has already publicly said we need this missile—we have got to have it. You have brought something here that is relatively new, and we have got to act on it.

I think we ought to weigh some of these points and go on and get together as best we can a program that carries with it deterrence and the promise of a more effective set of weapons later. I am just speaking in the light of what we have been through before, and there is no one that has any magic stick they can wave over this thing—not any committee, not any conference, and not on the floor.

We have got to dig down and get a practical product here, it seems to me. Technically and scientifically, I do not know enough about these matters to have an opinion, but I can take the opinion of others.

That is all I have to say now, Mr. Chairman.

Chairman TOWER. Senator Thurmond?

Senator THURMOND. Thank you, Mr. Chairman.

General Scowcroft, Dr. Brown and Dr. Deutch, it is a pleasure to have you gentlemen here today to present your testimony on the findings of the President's Commission. It is reassuring that such a distinguished bipartisan group could reach agreement on a matter that has generated much divisive public debate.

STRATEGIC TRIAD

I certainly hope that the Congress can proceed in the near future with the President's proposal for our strategic forces. The concept of a strategic triad has served us well, but we have failed to modernize a very important part of that triad.

The Soviet Union, however, has not failed to see the importance of modernizing its strategic forces, and we have left ourselves in the precarious position of having to redress a serious imbalance.

I have a few questions here that I would like to ask at this time. First, General Scowcroft, last year the Senate Armed Services Committee rejected basing MX missiles in existing Minuteman silos because it was felt that they would not survive a first strike. The Commission now recommends doing this.

Without ballistic missile defense, what will make this basing scheme survivable?

General SCOWCROFT. We think, Senator Thurmond, that we can still rely over the near term on the synergistic survivability that the ICBM force and the bomber forces provide to each other. Because of the fact that those two forces have to be attacked by different weapons systems we tend to think that the Soviets cannot time an attack that can destroy simultaneously both the bomber force and the ICBM force.

That will continue until the time that they have submarine-launched ballistic missiles accurate enough to attack silos. By then we hope that other elements of our program will be in place and thus continue the survivability of a fixed silo ICBM force.

MULTIPLE PROTECTIVE SHELTERS

Senator THURMOND. General Scowcroft, I noted that the report states that multiple protective shelters provide a significant degree of survivability, and that ballistic missile defense could be added to enhance survivability. Would you explain the difficulties of ballistic missile defense for multiple protective shelters as compared to that for closely spaced basing where incoming warheads are forced into a more confined area?

General SCOWCROFT. Senator Thurmond, we looked at ballistic missile defense quite extensively and our report concludes that at the present time it can be useful only in deployments where you have some additional leverage. One of those is in mulitple protective shelters.

Since an ABM system would be defending only the shelter with the missile in it, assuming that the Soviets could not discover which silo that was or where the ABM system itself was, you have tremendous leverage, which would make an ABM system relatively effective in an MPS deployment.

In closely spaced basing, a similar leverage is present in that, in order to attack closely spaced basing, the Soviets would be bunching their warheads, thus making them more susceptible to a sort of mass destruction.

Dr. **Brown**. I think General Scowcroft has put it right. Antiballistic missile defense without some other feature—multiple protective shelters, which of course were at one time approved by the Congress as the deployment mode—or closely spaced superhardened silos, which are not proven but might work out. I think it is not going to protect land-based ICBM deployment.

Dr. **Deutch**. Senator, I would just like to add that, while the Commission recommended a very vigorous antiballistic missile defense research and development program, the Commission judgment was that at the present time there was no system which gave the proper combination of practicality, cost and technological capability which would justify deployment now.

But we are still, I think, speaking about a vigorous and hopefully much more detailed antiballistic missile defense technology development, rather than deployment.

Senator **Thurmond**. Thank you.

These other questions, General Scowcroft, you or any of you can answer them, all of them, if you care to.

FRATRICIDE

The phenomenon of fratricide caused quite a bit of debate, and the Commission recommends continued study of fratricide, I believe. Now, Dr. Brown, what did the Commission find out about previous claims for and against fratricide?

Dr. **Brown**. Fratricide depends upon spacing the protective silos closely enough together so that one incoming warhead aimed at one silo would destroy or make inoperative another warhead aimed at a neighboring silo or protective shelter.

It is not clear that shelters can be hardened sufficiently to be able to count upon, or even expect, that phenomenon. How much they would have to be hardened, depends upon Soviet accuracy and how it is going to evolve in Soviet ICBM's during the eighties, and that turns out to be a matter of judgment.

I think that hardening silos to a considerably greater degree than they now are in the U.S. case may well be feasible, but I do not think that one can count on being able to harden them sufficiently to count exclusively on fratricide. Moreover, in the long run—and now I am talking about the nineties—accuracy is going to become high enough so that then, even with superhardening, the shelters are again going to become vulnerable.

Senator **Thurmond**. Any further comment by anyone?

[No response.]

One of the recommendations by the Commission was to begin work on a small ICBM that could be made mobile. Now, where would such mobile missiles be deployed?

General **Scowcroft**. Senator, that would depend on the kind of progress we are able to make on researching various mobile basings. There has been some promising work done on a hardened mobile launcher. If we could develop a mobile launcher hardened to between 30 and 50 psi, which is substantially greater than anything we have done so far, one could then base the small missiles on military reservations, some of our larger ones in the West, without at the same time presenting an attractive target to the Soviets, who might otherwise be able to barrage the entire area and thus destroy them.

We are optimistic that that can be done and we think that would be the best mobile basing.

Senator **Thurmond**. Any further comment?

[No response.]

VULNERABILITY

On the Armed Services Committee, we have been operating under the assumption that our strategic force modernization was of urgent importance because of our increased vulnerability to a first strike. Now, General Scowcroft, is our vulnerability increasing as we delay action on this portion of our strategic forces?

General **Scowcroft**. Yes. Yes; we think it is. We think that vulnerability has to be looked at in two contexts. The first is a broad context, that of our strategic forces as a whole. And as we point out, there are modernization programs going on for all legs of the triad, and we support the thrust of those programs.

In the narrower sense, our ICBM silos are vulnerable and will continue to become increasingly vulnerable. It is for that reason that we propose breaking our ICBM modernization into two parts, with a deployment of the MX to accomplish the immediate goals that we have outlined and, for the longer run, a survivable single warhead missile which could extend system survivability to the silos as well.

Senator **Thurmond**. Any other further comments by any of the others?

[No response.]

Now, my time is about up and I have just one more question. A recent article in the press indicates that the Soviet Union may be on the threshold of a defensive weapons system capable of intercepting Pershing II and submarine-launched ballistic missile warheads. If the Soviets accomplish this before we achieve a highly survivable land-based deterrent, what would our strategic position be versus the Soviets?

Dr. **Deutch**. Senator, let me suggest an interpretation to the quote you just made, which I believe the Commission did consider and did address. And that is, as the Soviets continue to improve their conventional air defense systems, they will inevitably have some capability along those lines. That is very much a matter of uncertainty. Depending upon how much they deploy their conventional air defense systems and how densely they deploy them, they would have some capability against certain types of ballistic missiles, Pershing and perhaps others.

In that regard, the Commission report stressed the importance of continuing to develop penetration aids for our ballistic-missile forces in order to assure that we are able to penetrate Soviet defenses, should they emerge as being more capable than they presently are, which is quite considerable. The need for penetration aids as a research and development item also points to the need for having a missile which has the capability to carry a considerable amount of throwweight.

Senator **Thurmond**. Any further comment?

[No response.]

Thank you very much.

Thank you, Mr. Chairman.

Chairman TOWER. Senator Exon?

Senator EXON. Thank you, Mr. Chairman.

General, I appreciate very much your coming here. I guess you know that I have the highest respect for your integrity and your ability, but I find myself at odds with the Commission report and I should state that from the beginning.

It seems a little strange to me, and maybe I am wrong. I have been wrong before and I could be wrong again. I am a relatively junior member of this committee. It seems strange indeed to me that the assembled leadership, past, present, and future, seems to have put a stamp of approval on the Commission's report. There have been very few as of right now who have dared raise their head above the foxhole to even ask questions.

I attempt to ask some questions today and I ask them, frankly, from the standpoint that I hope you are right, but I think this is a tremendously important decision we are making and I think that probably nothing we have done for a long, long time, at least since I have been in the Senate, is probably as important as the decision we are about to make.

Now, let me say first that I have looked at the list of the members of the Commission that the President appointed. Would it be fair to say that most of those members of that Commission were preplanned and preprogramed to approve some type of deployment of the MX at the very time this Commission was appointed, or would you think that would be an unfair characterization?

General SCOWCROFT. Senator, I do not think any of us were intimately involved in selecting the members of the Commission. I would think that would be a substantial exaggeration.

I think all the members of the Commission and the senior counselors believe in a strong deterrent force and an adequate strategic force, but different members come at it from very different perspectives. We spent a long time arguing the very premises of deterrence. We did not start with any assumptions in mind, nor were we given any instructions by the President other than to review strategic forces and their modernization.

Senator EXON. Are you testifying, General, that you believe that no members of the Commission went into that Commission meeting with a conviction that the MX had to be deployed?

General SCOWCROFT. No, I am not saying that at all. What I am saying is that different members went in with different convictions. One of the things about which I am most proud of this Commission is that, despite backgrounds emanating from a number of administrations with a number of different points of view and a number of individual points of view, some of which were on the record in not exact conformity to this Commission, the members of the Commission and the senior counselors felt that this was so overriding an issue that they were able to submerge their particular points of view in the interest of getting a report which they felt they could unanimously support, and they did that.

Senator EXON. Well, General, that is well said. And once again, I am convinced that you sincerely believe that.

I guess that the statement you just made leads me to a belief I have had, and believe me, I am trying to struggle to come around to support your position. But it seems to me that in reading and studying the report and listening to—I think this is the second or third time now and I have heard you elaborate on it—it seems to me, and your recent reference to previous administrations would indicate to me, that maybe this is more of a political report or a political consensus rather than a military one affecting the security interests of the United States.

VULNERABILITY PROBLEM

Let me go back once again to this vulnerability problem. I think you will not agree with me because I have asked you this question before, but let us get it on record publicly. It seems to me that what the Commission essentially has done is take us back to square 1.

October 2, 1981, I believe was the date when President Reagan literally turned upside-down all the strategic planning of all the previous administrations with regard to the MX and our deterrent. And vulnerability has always been a critical issue. Now it seems to be no longer as important, and I do not understand that.

It seems to me that if, as was the overriding concern back then, it did not make any sense to put MX's in Minuteman silos because they were vulnerable, I do not know what has changed. Now, you have done a great deal and I salute the Commission for shooting down essentially the "window of vulnerability" bugaboo that has plagued our defense planning for a long, long time.

I quote from General Lew Allen, then Chief of Staff of the Air Force, January 29, 1981: "An essential feature of the MX deployment is that the basing mode be survivable. One does not obtain that through placing them in Minuteman silos. Therefore, I do not favor such a deployment."

And Harold Brown, a former Secretary of the Air Force—and I will just read it back to Secretary Brown and he may have some explanation of it that I could accept, because I am struggling to accept your recommendations. Harold Brown is quoted here as saying on November 13, 1981:

"The October 2d decision adopts an admittedly very vulnerable basing mode and indicates an intention to continue to explore other possibilities."

He goes on to say: "The silos would not survive such an experience."

I am not satisfied, and I hope the other members of this committee are not satisfied with the theory that just because a group of experts got together, many of whom were the ones that sowed the seeds of the MX in the first instance and have brought it along to its present place, suddenly the fact that we get together to make a political decision that we will deploy 100. Specificaly, where did the 100 figure come from?

President Carter wanted 200. President Reagan wanted 100. Other people have said maybe 50, maybe 25. How did you happen to decide on 100?

General Scowcroft. There is nothing particularly magic about the figure 100. What we felt was that there should be a deployment of less than that which would constitute a full and obvious first strike capability against Soviet hard targets. Now, we even differed about exactly what that number would be, but probably 200, 250, somewhere in that range.

At the other end, we felt the deployment should be sufficiently large to demonstrate will rather than weakness. In other words, it should be something more than a token demonstration. It should be sufficient to make it clear to the Soviets that their big missiles in their silos were a wasting asset and they should join us in negotiations to resolve the issues that silo basing brings about.

One hundred was the number proposed by the Reagan administration. We felt that that adequately dealt with all three of those parameters.

Senator Exon. But I guess I can only interpret what you say—it could be 50 or it could be 350 in the end.

General Scowcroft. No.

Senator Exon. What are you saying, 100?

General Scowcroft. No, I think 350 would be a number that we think would cause problems and we think ought to be avoided at this time. That would clearly constitute a first strike capability against Soviet hardened targets.

Senator Exon. You are telling me, General, that 350 indicates a first strike threat to the Soviet Union, but 100 does not?

General Scowcroft. Yes, sir.

Dr. Brown. Yes. I think that the answer is that "first strike" means the ability to wipe out the targets. I think it has been misused in the past. People confused "quick hard target kill capability" with "first-strike capability" with "retaliatory capability."

Let us just look at the hard target kill capability; 350, of course, would be 3,500 warheads, which would be more than enough to put 2 warheads on every Soviet ICBM silo, and therefore reduce their probability of surviving to something of the same order as our ICBM silos have now. In other words, it would give us the same kind of capability against Soviet silos that the Soviets have now against our silos and which we find troublesome.

I do not call that a first-strike capability against strategic forces because both bombers and submarines would remain and could retaliate in a devastating way. But it is a first-strike capability against hard silos, and therefore 350 would be that kind of a problem.

One hundred is not; 1,000 warheads, even when added to the 1,200 or so MK–12 warheads that now exist in our Minuteman III force, would not give us that kind of capability against the Soviets. And so it would not produce equality in fact, but it would make the balance in that particular part of the forces of the two sides less unequal than it is now.

Perhaps I could also respond to your quotation from me, Senator Exon, which, as I think you realized while you were quoting it, said only that the vulnerability would remain, which I have again said today. It does not address the question of whether it is worth doing or not. I did not and I do not regard that as the ideal solution to the problem.

There is no ideal solution. I fought and pushed and thought I had succeeded in terms of legislative action in obtaining a multiple protective shelter mode.

Senator Exon. That is what I thought.

Dr. Brown. Well, a lot has happened since then, and the question then is, should we be willing to settle for what seems to be practically available, even though it does not solve the narrow vulnerability question?

Senator Exon. Now wait a minute. The narrow vulnerability problem, there we go again. We keep telling people that vulnerability of the MX missile, that all of us have been very much concerned about, is not very important.

I am sorry, my time is up. I have some other questions for the second round.

Thank you, Mr. Chairman.

Chairman Tower. Senator Warner?

Senator Warner. Thank you, Mr. Chairman.

Gentleman, I want to say that, irrespective of how this eventually comes out in the Congress, you have made a great contribution individually and collectively, and I for one express appreciation. Much has been said about the politics that surround this issue and I would like to ask a very short and succinct question.

If you were to put aside all political considerations, both domestic and international, is this basing system the very best from the standpoint of military effectiveness?

General Scowcroft. I think if we were to start over, Senator Warner we would probably not be recommending what we are recommending today. We do not feel that that was an option open to us.

Senator Warner. Was that option precluded by the administration in any way?

General Scowcroft. That option was precluded, I think, by the nature of the environment in which this decision has to be made. And therefore, based on our analysis of where we are now, which includes elements of political practicality—unlike some of the earlier panels convened for this which were technical panels, we did have a broader charter. We feel that at this time this solution is an optimum solution.

Senator Warner. What would have been the better solution in terms of pure military effectiveness?

General Scowcroft. On that, I cannot speak for the Commission in general.

Senator Warner. Please give your view, and then the other two panelists can provide theirs.

MPS DEPLOYMENT

General Scowcroft. As an individual, I supported the MPS deployment. In view of some of the hardening developments, I probably, other things being equal, would have recommended an MPS deployment taking advantage of silo hardening to lessen the land requirements.

Senator Warner. Secretary Brown?

Dr. Brown. In an ideal world I think that is where I would have come out, too. MPS was the right way to do it at the time. Since then, changes in expected hardening, although not enough to in my judgment allow a survivable system without an MPS feature, would probably have done just what General Scowcroft said—allowed us to deploy them on military bases, because they use less space, and thus avoided what was the biggest problem with the original MPS deployment, the amount of intrusion that it made outside of military bases into the environment and the resulting effect on the surrounding community.

Senator WARNER. Dr. Deutch?

Dr. DEUTCH. Senator, I would like to turn the question. Candidly, sir, I am convinced that it is more important to choose a basing system that will lead to an integration of our arms control efforts. I believe this proposal does so. If asked, what is the militarily most effective deployment without any attention to arms control implications, I would become very concerned.

I am convinced that the present proposal does, in fact, do the best job of integrating the arms control aspects with direct military effectiveness. But, in order to be responsive, let me tell you that if we were only talking about military effectiveness, against which I would dissent, I would then think that the vertical silo MPS, the vertical silo with deception, widely spaced, taking whatever advantage of hardness, would be the most desirable consistent with other views which have been expressed by others in the past.

But again, I want to stress to you that I believe that an important contribution of our Commission is the melding of the military effectiveness issue, that you properly raise, with the arms control aspects.

Thank you, sir.

Senator WARNER. Well, I commend you on that. The question certainly was not suggested—I did not want to place emphasis on the arms control implications. But what concerns me is that the Dense Pack received a very speedy trial by the Congress, but certainly not a fair trial. This committee did not hold, so far as I know, a single hour of hearings on that subject, and it was quickly brushed aside.

At a minimum, I think your very thorough analysis collectively by the Commission will provoke, I hope, an equally responsible action by the Congress examining this option. I think we have the responsibility to go back and examine the MPS if that is necessary in the context of approval or disapproval of this system.

General, the question that is going to come up, in my judgment, on the floor of the Senate when this goes for general debate is that the United States of America is proceeding on a course within a period of less than a decade to introduce MX, B-1, Stealth, Trident II, Midgetman, advanced Cruise, all of these systems. We have budgetary considerations, we have arms control considerations.

The question will be, can we not leapfrog over MX and go directly to the Midgetman, which seems to have many advantages, primarily in the area of arms control and reduced vulnerability?

General SCOWCROFT. We feel, Senator, that that would be an unwise course to take. First of all, we do not have a small missile at the present time. There are a number of uncertainties about size, about basing. If one were to wipe out the MX now and focus on a small missile, I think we would soon find that the basing problems which have so vexed us with the MX would apply as well to the small missile.

It is more flexible, but it still, in the present environment, has the same problems. What we feel is essential, in addition to addressing the technical problems of developing a small missile, which we think should go forward but with deliberation so that we are sure where we are going, is movement toward an arms control environment which would be most compatible with the deployment of that small missile.

That, we feel, can come about, most probably, only through the Soviets being induced to move from what is now a favorable strategic posture in their ICBM forces. One can argue about what that, in fact, would give them, but they are able at the present time to pose a threat to our ICBM forces to which we cannot begin to reciprocate.

There is no particular reason, and one does not have to have a malevolent view of the Soviet Union to hold this, that they should give up that, even if it is psychological, without some inducement to do so. So we think that it is essential in the arms control context, to have the small missile to place the United States in the most favorable environment.

Senator **Warner**. I will offer your colleagues an opportunity to respond if they so desire.

Dr. **Deutch**. Well, I would just like to reiterate my conviction. Senator, that if you take away the MX portion, the potential for the more stabilized regime caused by a small single-warhead missile will be reduced, not enhanced. As Secretary Brown has said, if you do not have a workable understanding with the Soviets with regard to strategic arms and if they continue to modernize their ICBM force and to add numbers potentially above SALT limits, then the problem of the number and cost of a small single-warhead missile becomes extremely severe.

So, in my judgment, the MX missile is a required and inseparable part of the strategy which we are proposing for your consideration in order to reach an appropriate level of agreement with the Soviets toward a more stable regime.

Senator **Warner**. In looking over your report, which by the way I found very comprehensive on the overall subject of our nuclear strategy, past, present, and future, I did not see any specific reference to the program recently enunciated by the President on defensive systems; namely, laser beams, particle beams, those things commonly referred to as Star Wars.

Secretary Brown, was that purposely omitted?

Dr. **Brown**. I think the Commission observed a decent silence on this issue. As you know, I have not. I think that the Commission supports the idea of deterrence as the purpose of the strategic forces. I feel very strongly that that has to be the purpose behind our strategic forces. That does not mean that we should not work on possibilities of defense.

One reason for that is that the Soviets clearly are working on defense, and we need to know what is feasible. But I continue to believe that in the foreseeable future the ability to have a sufficient defense so that you improve security instead of threatening security by having one or both sides think that they can survive retaliation, thus reducing the barriers to starting a nuclear war. I believe that you are likely to get worse off rather than better off—if you act as if you are seriously going to move to those systems.

I think we should keep doing research on them, but I think that to the extent that such proposals take our attention away from deterrence and from arms controls and reduction as the way to security, they are a mistake.

The Commission, I think, was dealing with a narrower problem. but it did look at the deterrence issue and it concluded that deterrence is what needs to be preserved.

Senator **Warner**. And you did take testimony from witnesses in response to this program?

General **Scowcroft**. Yes, we did, and I would make two points. First of all, we felt that the President's ideas were basically in a time frame which went substantially beyond that which we considered. Our report does urge a rigorous R&D program in all aspects of ABM. We point out that, at the present time, ballistic missile defense of hard points is a very difficult task, and defense of areas is even much more difficult. I think I would just leave it there.

Dr. **Deutch**. I concur with my colleagues.

Senator **Warner**. Thank you, Mr. Chairman. My time is up.

Chairman **Tower**. Senator Levin?

Senator **Levin**. Thank you, Mr. Chairman.

PUTTING THE MX IN FIXED SILOS

Before this most recent chapter of MX was written, there was disagreement as to whether there was a window of vulnerability, if there were a window, how wide open it was, how to close it, how to base the MX. There was disagreement over just about everything except one thing. It seemed that everybody agreed not to put the MX in a fixed hole. There seemed to be a consensus pretty much on that one.

Bill Perry said about that:

> My concern is that if we had this very accurate, very threatening missile in unprotected silos, if they do not go to a survivable system themselves, that that simply increases the hair trigger on both sides. I said on balance I would not go ahead with the MX in silos because I do not believe that we will come up with a survivable basing mode that is acceptable. Since I am pessimistic that we will get a base mode that is both survivable and acceptable, I am opposed to putting a weapon that lethal in an unsurvivable mode for reasons I have described in terms of hair triggering the alert.

Our chairman, about the same time, in November 1981, said that:

> By stuffing the MX's into fixed silos, we are creating just so many more sitting ducks for the Russians to shoot at. True, the MX missile itself will be more powerful, more accurate, and we need that kind of weapon, but it is of little use to us unless the Soviets are convinced that it can survive an attack. Without that, the Russians will have no incentive to start arms control talks.

Those are reflective of the Congress's reaction to a proposal once before that we put the MX's in fixed holes. Again, it seemed that just about everybody was convinced that we should not do that, although there was not an agreement as to what we should do. Yet this Commission now is proposing that we do exactly what again just about everybody, including the Congress, has said on a number of prior occasions is the last thing we should do, which is to put a first strike MX weapon into a fixed nonsurvivable hole.

General, you have said that for the first time, this Commission was able to consider "political practicalities" in your answer to Senator Warner's question. What were those political practicalities that you were able to consider that prior recommendations could not?

General SCOWCROFT. Senator, if I could comment just in general—first, I think the one thing that this Commission did, which had not been done before, is to put the whole problem into a framework, and what we are proposing in general, is a new direction and an integrated program composed of three parts, the MX, a smaller missile, and arms control.

We do not believe that had been done before. I think one has to look at the problem of vulnerability, and we are not blinking at it in that context.

Senator LEVIN. What were the political practicalities you were referring to specifically? What were they?

General SCOWCROFT. Specifically, we felt that the MPS deployment or the closely spaced basing deployment, whatever their military merits, were not politically practical at the present time.

Senator LEVIN. To Congress? To the President? To whom?

General SCOWCROFT. Different ones to different elements.

Senator LEVIN. Which to which element? Who would not buy which element?

General SCOWCROFT. I guess we felt that with MPS, the time had passed, perhaps, with both. And, since on closely spaced basing the administration had recommended it, that the Congress would not accept it.

Senator LEVIN. The Congress would not accept it even though it was militarily preferable?

General SCOWCROFT. Yes, the Congress would not accept it.

Senator LEVIN. Would you say it also was less destabilizing?

General SCOWCROFT. Well, the Commission had additional questions about closely space basing itself, in that it was a very new technology. It depended on advances in hardening which were not fully tested. It depended on fratricide concepts, some of which could not be tested, and in the sense that the vulnerabilities and counterresponses were a rapidly shifting game because it was such a new concept, we felt that it did have additional problems itself.

Senator LEVIN. You considered it to be within your mandate and charter to consider those political factors in your proposal?

General SCOWCROFT. Yes, we did.

Senator LEVIN. General, if Midgetman were available for deployment now, with the present arms-control situation and the Soviet threat that we see now and in the future, which would you deploy, Midgetman or MX?

General SCOWCROFT. That is a very hypothetical question.

Senator LEVIN. It was stated that way, yes.

General SCOWCROFT. I believe, and have not given this any rigorous thought, that, based on our analysis at the present time, I would probably recommend the deployment of both.

Senator LEVIN. Even if Midgetman were available for deployment now?

General SCOWCROFT. Yes.

Senator LEVIN. And how confident are you that Midgetman will give us, assuming again that it were available for deployment now, that it would give us prompt, hard, target-kill capability, and survivability?

General SCOWCROFT. I think there are a number of questions that have to be answered about the small missile, and for that reason I think that was basically the reason why I would deploy some of both .

Senator **Levin**. My assumption is that those questions have been answered, and that it was available for deployment now, and you still say you would deploy both.

General **Scowcroft**. Yes. One of the things we do not have is the arms control environment.

Senator **Levin**. I stated that in my assumption, with the present arms control situation.

General **Scowcroft**. No, not with the present arms control situation. If you are going to move us forward to 1993, in which we have both a small missile and an arms control environment which limits the deployment necessary of the small missile and so on, you have a different question, but at the present time, with the present arms control environment, a deployment of the small missile in adequate numbers would be a difficult job.

Dr. **Brown**. Maybe I can expand a little on that. If you take 5,000 Soviet ICBM warheads—which is about what they have, give or take some—which were highly accurate and had one megaton yields, I do not see a way to deploy Midgetman either in hardened silos or in hardened mobile systems on military bases that could not be destroyed by a fraction of that force unless one went to a very large number of such hardened Midgetman systems, which would cost an enormous amount. That would stagger, I think, the Congress and the administration as well, unless one were willing to deploy mobile systems off military bases in peacetime, and I do not think that is politically practical.

So, in the present situation, with the present Soviet forces and present arms control arrangements, I think Midgetman, by itself, is not an answer to the vulnerability problem.

MIDGETMAN IOC

Senator **Levin**. How confident, General, are you about the Midgetman IOC, the deployment date of the early nineties?

General **Scowcroft**. I am relatively confident about it. I think that is a deliberate enough program, and the uncertainties are such that I think it ought to be able to be done then without too much strain.

Senator **Levin**. Did anybody on the Commission start with the position, or express the view, that we should not build MX unless there was a survivable way to base it?

General **Scowcroft**. I think a number of Commission and consular members have been quoted about their views at an earlier stage, and a number of them came into the Commission holding something like——

Senator **Levin**. Could you identify which members of the Commission held that position?

General **Scowcroft**. No, I would rather not.

Senator **Levin**. But there were members of the Commission who specifically took the perspective and argued and advocated that we should not build MX at all unless we could put it in a survivable basing mode?

General **Scowcroft**. Let me say the whole Commission looked at that with a very skeptical eye. You know, we are not unaware of the dialog which has taken place over a decade in which we have looked for a basing mode for the MX missile. Were all other thing equal, all members of the Commission would probably have preferred a fully survivable basing mode to one not fully survivable.

Senator **Levin**. That is not my question. My question is, did anyone on the Commission advocate the position that we should not build MX unless there were a way to put it into a survivable basing mode?

Dr. **Deutch**. Senator, may I?

Senator **Levin**. No, I would like the General first to answer, if you do not mind. It is a straightforward question.

General **Scowcroft**. It is precisely because we did not start our deliberations by each one setting forth what his fixed views were. We started our deliberations by reviewing the history of the MX and reviewing all the problems.

Senator **Levin**. I understand, but did anybody advocate that position at any time during the deliberations at the Commission: Let us not build it unless we have a survivable way to base it?

General **Scowcroft**. I could not state categorically. My impression is that more than one member came in with that initial presumption.

Senator **Levin**. My time is up. Thank you, Mr. Chairman.

Chairman **Tower**. Senator Cohen?

Senator **Cohen**. Thank you, Mr. Chairman.

SEARCHING FOR A BASING MODE FOR MX

I must say, General Scowcroft, that searching for a basing mode for the MX and a rationale to support it has been much like watching mercury on a mirror. It shifts and slides around, and has done so over the years. For example, I recall the three of you would support a vertical MPS, were all things ideal. Is that the basis of your testimony this morning, all things being equal? If you had to start it again, would you talk about a vertical MPS? Did you say that?

Dr. **Brown**. If this were 1976 or 1977, 1978, I think I might very well do that, but it is 1983.

Senator **Cohen**. If I recall, the Air Force back in December 1978 did, in fact, recommend the vertical MPS as being the most cost-effective and militarily effective basing mode that one could find for the MX. That was December 1978.

Shortly thereafter, in my judgment, due to SALT II considerations, questions began to arise as to whether or not that violated the provisions of SALT II. And therefore we started searching for another type of basing mode. I believe, Secretary Brown, that you at that time were at least examining questions about the horizontal racetrack type of basing mode, which several Western States ultimately found environmentally unacceptable, and President Reagan, then candidate Reagan, found politically unacceptable. This brings us back to where we are today, which means that we do not have that ideal situation and that environmental and political considerations really have dictated the Commission's current dilemma; namely, to come up with a basing mode that will suit this President and satisfy the western objections of using up a lot of land.

Is this not essentially where we are today?

General Scowcroft. Yes; it is. Both MPS and CSB do raise questions about arms control which are not raised by our present recommendations.

Senator Cohen. Secretary Brown said a moment ago that we need to exact a high price from the Soviets if they were to choose to knock out our ICBM force. The question occurs, does putting 10 eggs in one basket, in one fragile or vulnerable basket, as opposed to putting 1 egg in one basket, exact a high price from the Soviets if they were to choose to knock it out?

Dr. Brown. That piece by itself does not. That is one reason for looking for further diversity of force with a small missile, and it also is a reason for looking at the survivability of the entire force. The times of flight of SLBM's and ICBM's being what they are produces this interaction between survivability of the fixed ICBM's and of the bombers. Even so, it does not, even with all those factors. We should, I think, continue to look for more survivable ways through arms control and through the small missile.

Senator Cohen. General Scowcroft, how soon would you expect the Soviets to be able to improve their SLBM's to the point where they could target silos, ICBM's?

General Scowcroft. That is a difficult question for me to answer. Perhaps Dr. Brown could answer that.

Dr. Brown. Well, I think it clearly would not happen until some time after we have that capability, and I would not expect us to have it until at least the early nineties. So I think we are talking about some time in the nineties, depending upon hardness and so forth.

Senator Cohen. Well, that is why I wanted to raise the question, because I think, General Scowcroft, what you indicated was that it would be impossible for the Soviets to attack our bomber force and our ICBM force simultaneously. I assume that is because the submarine force would be used to attack the bombers.

General Scowcroft. Yes.

Senator Cohen. And they would have a much shorter flight time. The ICBM force would have to be used to attack our ICBM force. By the time they have the capacity to develop a submarine-launched attack against ICBM's, I think what Secretary Brown just said is that we would probably have a mobile single-warhead system. We could have one by that time.

General Scowcroft. Exactly, and that in turn would lend survivability.

Senator Cohen. So what I am asking about is, since it is impossible for the Soviets to attack our bomber force and ICBM force simultaneously, then the window of vulnerability was never quite as wide as it was suggested. Is that not what you are saying, actually?

Dr. Brown. Some of us said that at the time, Senator Cohen.

Senator Cohen. It was never quite as wide because of this incapacity or inability of the Soviets to target, both by their SLBM's and ICBM's. By the time they correct that deficiency, what you are saying is that we will probably have the other mobile single warheaded missile, in all probability. Is that not what is being said here?

General Scowcroft. Yes; I think so.

Dr. Brown. Except that a single-warhead missile may, itself, not be very survivable unless you can get arms control to bring down the total numbers, and the MX in Minuteman silos is one lever to try to do that.

Senator Cohen. All right. Would that constitute a second missile within the meaning of the SALT II, Secretary Brown or General Scowcroft?

Dr. Brown. It would, but not until some time in the late eighties, when it was developed and tested. That is, of course, after the 1985 expiration date of the SALT II Treaty as it was negotiated, and other things would change by then.

Senator Cohen. Well, SALT I has expired by its term; has it not?

Dr. Brown. SALT I has expired, and some of its provisions have been replaced by other treaties.

Senator Cohen. But we still adhere to basically the SALT II Treaty.

Dr. Brown. We adhere to some and not to others. I think that the different numbers of submarine missiles allowed, for example, in SALT I, no longer applies, and so forth.

Senator Cohen. So, in other words, you would expect to renegotiate the question of having two new missiles, as opposed to one new missile, by 1988 or the early nineties?

Dr. Brown. I would hope that there would be not only a reaffirmation of SALT II, but by that time further treaties on that subject.

Senator Cohen. If there is a reaffirmation of SALT II, then you do not have a second missile; right?

General Scowcroft. Senator, SALT II and the agreed understanding envisions new negotiations, I believe, starting by 1984 for a follow-on to SALT II which was to expire December 31, 1985.

Senator Cohen. But if we do not have a second missile of the single warhead, mobile type, and if we do have a reaffirmation of the provisions of SALT II, then we might find ourselves locked with an MX and no land-based, mobile missile system—an MX versus the SS-18, with no mobility at all.

Dr. Brown. You will recall that the protocol which was attached to the SALT II Treaty was to expire in 1981, and did expire, presumably. Whether something that has not been ratified can have a protocol that expires, I do not know. I will leave that to the lawyers. But it is only by virtue of that expiration that the mobile version of the small missile would be allowed. I would point out to you that the fixed version of the small missile, which is advocated by quite a few people and might be the one that we would propose to deploy, is also prohibited by SALT II because no new fixed launchers are allowed to be built. So the whole thing is up in the air in any event.

Senator Cohen. Let me ask you, what was the data that the panel relied upon, saying that it would take some 2 to 3 years longer in the production of the MX to effect the necessary upgrading of the MK-12 or the Minuteman III missile for it to have the same accuracy and capability as an MX? What data did you use for that conclusion?

General Scowcroft. We relied on Air Force estimates, Senator.

Senator Cohen. And if that were proven to be incorrect, especially the cost of achieving that equivalent hard target kill capability, then

I assume that you would have a different opinion as far as the MX is concerned? After all, you would have the same capability on a missile with only three warheads, certainly a lower target value in terms of the Soviets, nevertheless, having the same hard target kill capability as the MX, and spread over a wider area than contemplated before.

General SCOWCROFT. I do not believe that. First of all, the Commission did not base its decision on Minuteman modernization, upgrading the Minuteman, or on the time nor the cost factor, but principally on the effect.

Senator COHEN. Let me ask you again. If it were the Commission's conclusion that the Minuteman III could in fact be upgraded to have the same hard target kill capability, then I assume that you would logically, from the rest of the Commission's report, be advocating that you go with the Minuteman III, with the upgraded warhead, because you have, in fact, a lower target value as far as the Soviets are concerned. You do not have 10 warheads sitting there. You have three. You have the same hard target kill capability dispersed over a number of separated silos.

Is that not the basis of strategic stability, going to the single RV to disperse them in a wider area, having the same accuracy?

Dr. BROWN. The Soviets could take out all of those silos, so it does not really matter all that much whether 100 of them are more valuable than 300 others.

Senator COHEN. Well, they can do that with the MX, too.

Dr. BROWN. That is true, but——

Senator COHEN. But it is an even greater incentive for the Soviets to take out a 10-warhead missile than a 3, is it not?

Dr. BROWN. I think it is a marginal difference, but I think that General Scowcroft is right, at least I can speak for myself, that the timing is one factor. The cost would be less. The time would be longer, I believe, for Minuteman III, because MX is ready to be flight tested without guidance now, and Minuteman III upgrade could not be for some time. Whether it is a year, 2 years, 3 years, I do not know. But most of all, not going ahead with MX and going ahead with the Minuteman upgrade would, I think, remove this lever on the Soviets—that however many Minutemen you upgrade this way, you are limited to the numbers which already exist, whereas the Soviets would have to consider that with an MX there would be a production line which, if they chose to get into a race, would at least provide us with something that we could keep building.

Finally, my own judgment is, if you do not put MX into Minuteman silos, you are not going to upgrade the Minuteman III either.

Senator COHEN. One final comment, Mr. Chairman.

I notice in your statement, Secretary Brown, that you indicated that if you do not do this with the MX, you will not do the other things. I wonder if you have the same opinion about the B-1 versus the Stealth, because I recall there were a number of people up here who said, we had better build the B-1, because Stealth may never arrive.

Dr. BROWN. I think that is different. One is a question of will and the other is a question of judgment as to what makes sense. There is a much longer history, in the case of ICBM upgrades, of saying we are going to do something and then not doing it.

Chairman TOWER. Senator Bingaman?

Senator BINGAMAN. Thank you, Mr. Chairman.

JUSTIFYING THE MX PROPOSAL

Let me just ask, I understand there are three basic reasons that you have in the report and that you went through this morning, General, to justify the MX proposal. One was as a demonstration of the national will. Second was reduction of the imbalance in ICBM's. And third was, provide an incentive to the Soviets to get serious on arms control issues.

On the question of reducing the imbalance or moving in that direction, I understand the President's position to be that there is an imbalance between the Soviets and this country in our strategic forces. The position the Commission is taking is that there is an imbalance in our ICBM forces. Do I read from that that you did not decide there was an imbalance in our strategic forces overall?

General SCOWCROFT. We addressed primarily the ICBM forces in that sense. We looked at the modernization programs of the other elements of our strategic forces and the programs that the Soviet Union has underway in those same elements, and we came to the conclusion that with the program which we proposed in ICBM's, that our deterrent capability was really in good shape.

Senator BINGAMAN. I do not know that that is exactly what I asked. Given the present state of affairs, did your Commission believe there was an imbalance in our overall strategic forces?

General SCOWCROFT. Well, there is no question that, taking each element by itself, our bomber forces are, at the present time, superior to those of the Soviet Union. And, in terms of quality, not numbers, our SLBM forces are also, although the Soviets are moving ahead very rapidly with modernization programs in both elements.

We do not feel, at the present time, that those forces make up for the imbalance in ICBM forces. For the Soviet Union, ICBM forces are really the coin of the realm. They are the forces in which they have put the most emphasis, the forces that they rely on, and therefore the forces which are the principal element, we feel, for them of deterrence.

Senator BINGAMAN. So as I understand your answer, the Commission did determine there was an imbalance in our strategic forces as compared to the Soviet Union.

General SCOWCROFT. Based on the ICBM forces.

Senator BINGAMAN. That we needed to solve that problem in order to create a balance? Is that the Commission's position?

Dr. BROWN. I would say it a little differently, and not being a member of the Commission, I do not have to subscribe to what the Commission says. I would not trade our strategic forces overall for the Soviet strategic forces now. On the other hand, given the trends, I am not sure I would be prepared to make that statement in a few years unless we proceed with the modernization of the ICBM forces.

Senator BINGAMAN. Let me ask about the imbalance and whether or not we are reducing this imbalance between ICBM forces significantly by going ahead with the MX proposal that you have made here. As I understand it, we would have 1,000 hard target warheads under this. The Soviets still would have over 5,000 hard target warheads.

In your opinion, does that significantly reduce the imbalance?

General Scowcroft. We think it does, because we think it demonstrates to the Soviet Union that we are determined, one way or another, that they shall not be able willy-nilly to enjoy that kind of asymmetry.

Dr. Brown. Moreover, I think you have to count the Minuteman III. MK-12 warheads, even with their present guidance system, as having some hard-target-kill capability—not as much as the warheads in the Soviets' best missiles, but probably as much as the Soviet warheads in some of their other missiles.

INCENTIVE FOR SOVIETS ON ARMS CONTROL CONSIDERATION

Senator Bingaman. Let me ask also about the third reason that you gave for the MX's, which is, as I understand it, that it would provide an incentive for the Soviets to get serious about arms control. It seems to me that in fact the Soviets would be able to use 20 of their SS-18's, as an example, with 10 warheads each, and take out these MX missiles, with 2 warheads per MX missile, or take out a large number of them.

And therefore, instead of providing an incentive to them to get serious about arms control, it might in fact, as many critics have said, provide an incentive for them to look more seriously at a first strike.

What is your response to that?

General Scowcroft. No, Senator, we do not think so. First of all, the Soviets have to look at our capability. They have to look at our determination, at our will in any calculations they make about a first strike. One of the real problems in the present balance, and one of the sources of instability is the Soviets' comfort, to whatever degree they have it, that they do enjoy this edge in ICBM forces. Therefore, in the course of a crisis and verbal exchanges or escalations in positions, they can come to the conclusion that the United States is the one which will be more deterred, and therefore they can act with relative impunity in a crisis. We think that is a more dangerous element of instability than the theoretical vulnerability which the Soviets have, as well as we, in their silos.

Senator Bingaman. Let me ask about the alternatives just a minute, following up on Senator Cohen's questions. Secretary Brown, I understand your comments were that the main problem with the alternatives such as Minuteman III, was that as a practical matter we would not do them if we did not do this. Is that an accurate statement?

Dr. Brown. No, I gave about five reasons, of which that was the last, so it was reached in kind of a crescendo. I think that the time is one issue. The others will come later, the D-5, probably 3, 4, or 5 years later. I believe that the Minuteman upgrade would be 2 or 3 years later. The Minuteman does not provide an ongoing capability. It is limited in numbers—the number of Minutemen you have—so it does not provide the same kind of leverage.

In my judgment, all of them suffer from this additional feature that failure to do the MX suggests to me that we will not do the others, either.

Senator Bingaman. But if you were persuaded that the question was one of judgment, as in the case of the Stealth over the B–1, instead of a case of will, then would you think that some of the alternatives should be seriously considered by the Congress?

Dr. Brown. Stealth versus B–1 is a very different question, because the capabilities are very different there. If I thought that the Minuteman III upgrade and the D–5 provided considerably greater capabilities, then I would be prepared to wait for them. Since they provide less capability, I do not see any virtue in waiting for them.

Senator Bingaman. That is all I have, Mr. Chairman.

Chairman Tower. Senator Goldwater?

Senator Goldwater. Thank you, Mr. Chairman. I apologize for being late.

I first want to register myself as being in complete accord with your findings. I have long advocated putting the new missile—I do not like to call it an MX; it is a new Minuteman—putting it into the vacated silos that would be caused by the removal of the old Minuteman. While I do not think it would work more than once, I would even advocate the use of the old Titan silos. I do not think there would be anything left of the silo after one takeoff, but I think you have reached a good, sound conclusion.

I would like to ask one question, because I do not think we have ever thought this one through, and I do not know whether to ask it of you, General, or you, Dr. Brown. I think that with your scientific background, you may have a little better way of answering it. We reportedly have more warheads than do the Soviets.

Now, the thing that interests me is that we launch a Minuteman. How long would it take to replace that vacated silo with a new Minuteman?

SILO REFURBISHING NECESSARY AFTER USE

Dr. Brown. About a month. Those silos were not designed to be reused. The launch is made from inside the silo and it affects some of the electronic equipment. The silo has to be refurbished and so forth. Those were never built for that purpose.

Senator Goldwater. So in other words it is not like reloading a rifle with a 30-caliber bullet, or putting a new clip into an automatic rifle. You have got a long, long process of putting a new missile into a silo if the silo is still in existence or still operable. Is that correct?

Dr. Brown. That is correct.

Senator Goldwater. So the fact that we have maybe 800 or 1,000 or whatever it is more warheads than do the Soviets really does not mean a lot, does it?

Dr. Brown. Well, we do not know what they have in the way of——

Senator Goldwater. I did not ask that question.

Dr. Brown. Well, I think that there is probably a difference. We probably do have some more. I do not consider that by itself terribly important, although it is one measure of capability.

Senator Goldwater. I do not think anybody who has to think about it puts much credence into the importance of it, but we hear from the press, we hear from television that, my God, we have got so many thousand more warheads than the Soviets, we ought to start destroying them, when actually, when you get down to it, they are really not all that valuable to us.

Dr. BROWN. Well, I believe that the right measure, Senator Goldwater, is the number of warheads on line that could be used in a strategic exchange. Warheads that we do not have on line should not be counted in this.

Senator GOLDWATER. Well, they are.

Dr. BROWN. Not by me, and when I say we have somewhat more, I am counting the ones that are on line and would be available in case of a nuclear war. I think we do have an edge there. It is not very large, but I think it exists.

CEP QUESTIONED

Senator GOLDWATER. The trouble is, you are not a publisher. Now, I would like to move on to—before I leave, we have never fired, in my opinion, or in my memory, a complete missile, that is, with an active warhead at a target; have we?

Dr. BROWN. No. We have done it with dummy warheads, but we have never done it with an active warhead.

Senator GOLDWATER. So we do not know—we cannot say with all confidence that we have a CEP, say, of 500 feet or 1,000 feet or 2,000 feet. We do not know; do we?

Dr. BROWN. There is some uncertainty. There is some uncertainty.

General SCOWCROFT. We have not fired from operational silos as well.

Senator GOLDWATER. We do not know all that about the Russian CEP, either; do we?

Dr. BROWN. We know they have fired from operational silos, and so, to that extent, they could expect less degradation from their firings. There may be some so-called bias errors having to do with direction of firing in their case, too, but there are uncertainties.

Senator GOLDWATER. I am thinking about an accuracy that can hit the top of a silo that is not a hell of a lot bigger than this room from 5,000 miles away, and I might say we never, nor has any other country in the history of the world built a rifle with that kind of accuracy. So I want to have more proof before I buy a lot of this business that we are hearing.

Now, one other, not necessarily a question, but a statement, and I think, General, you made this point in answer to a question put to you by the Senator from New Mexico, that current United States/Soviet strategic forces are about even. Well, maybe we are a little bit ahead. I have never been able to buy that, and for years I have been trying to get the Pentagon to tell the truth about this. I think if you want to count the submerged missiles of the Navy, if you add that to our aircraft and to our ICBM's, we might come out ahead yes, but if we are talking about strategic forces involved in aircraft, I think they may be a few ahead of us.

We have the ancient B-52. They have the Backfire, over 150 of them now, an aircraft that is very comparable to the B-1. They have the Blackjack coming into life, an aircraft that is even better than the Backfire, and then we took all of our B-47's and put them out on the desert in my home State. They did not quit using the Badger. So, when you add all the aircraft that we have and the aircraft that they have that can reach the targets, I am not talking about getting back. The Russians do not care, and they always have Cuba if they have to land some place.

I think the strategic forces are pretty close to even when we are talking about airborne ability. If we have one advantage today, it would be in the cruise missile. Do you buy that?

General SCOWCROFT. Senator, one of the reasons I hesitated when Senator Bingaman asked the question is, it is a very difficult question to answer in a broad sense because the forces are very asymmetrical. They emphasize different parts of the forces. They are designed for different purposes. And therefore it is really very difficult to say precisely what the balance is.

As you compare ICBM forces with ICBM forces, they are more symmetrical, and there it is quite clear that they have a capability that we do not have, but as you look at war scenarios, and there have been a number of studies around, I am sure you know, of exchanges and who comes out here or there, so it becomes a very difficult question to answer.

But in the case that we are talking about, the narrow case of ICBM's, we believe there is clearly an imbalance.

Senator GOLDWATER. I agree with you, but I am talking about aircraft, and I guess I had better keep that question for the Air Force when they come over, but when I add up all the aircraft they have, and add up the aircraft that we have, I think they have about as many as we have that can get to a target and hit it or attempt to hit it, and whether they get back or not is of no importance to them. It is to us.

So, I will reserve the full answer to that to——

General SCOWCROFT. I think you have a good point, Senator. One of the things one has to calculate when considering air forces, and I am very proud of our Strategic Air Command, but the Soviet Union has substantial air defenses. The United States has virtually none, and that also has to be calculated in a force balance.

Senator GOLDWATER. That even works more in their favor, because we have practically no air defense in this country.

General SCOWCROFT. That is correct.

Senator GOLDWATER. We have some antiquated F–106's, that are so good we do not dare take them out of the inventory, but we do not have enough to put in this room, and we are not buying enough new interceptor type aircraft to give confidence to the American people that we can stop enemy bombers coming in.

Mr. Chairman, I thank you for the time, and I will yield back the balance.

Chairman TOWER. Senator Wilson?

Senator WILSON. Thank you, Mr. Chairman.

USING MX AS NEGOTIATING LEVER AT GENEVA

Secretary Brown, I am sorry that I missed the first part of your testimony. It has been suggested that if we did not have the MX weapon, we would considerably undermine the ability of our negotiators in Geneva to bring about serious arms reduction through negotiation on the part of the Soviets. Would you tell me your feelings with respect to this?

Dr. Brown. I do not want to overstate that leverage, Senator Wilson. I think that statements to the effect that, if we do not get this, there is no point in negotiating, I think, go too far. I do believe that when negotiations on numbers of ICBM's take place, it does matter whether the United States has an ongoing ICBM program, a production line, which the Soviets would have to contemplate when deciding whether they would be willing to reduce the number of their ICBM warheads. So, I think it is a factor.

Senator Wilson. I take it from the Commission's recommendations, to which you were one of the unanimous voices, that you are not satisfied that we can safely rely simply upon two legs of the Triad?

Dr. Brown. It is a matter of judgment. I think that an alternative would be to beef up the other two legs of the Triad with additional cruise missiles and additional bomber forces and additional submarine-launched ballistic missiles. Those would have to be bigger programs than those which now exist in those areas, and they would, in my view, suffer from being less diversified.

If the Soviets, some time in the 1990's as a result of their antisubmarine warfare programs, were to put our submarine-launched ballistic missiles at risk, then I think we would be in considerable peril. I do not think that is likely to happen. And the question is, what is the best way of insuring against it?

In my judgment, the best way is to keep a land-based ICBM force and to try, over the next decade, to make it not only more capable, but also more survivable. The MX part of this proposal does not do that. But the small missile part does offer some prospects of it. Right now, I believe that our ICBM forces are very likely to have a high degree of vulnerability through the 1980's. Our SLBM's are very good insurance against that. In the 1990's, it is conceivable that the situation will shift, and we had better have taken out the insurance that these proposals provide.

Senator Wilson. Pursuing that, your concern about the survivability and vulnerability of the MX in the Minuteman silos, while it is a concern, is not so great a concern that you do not think there would be survival on the part of those missiles were we under attack. To what degree in the basing mode of the existing Minuteman silos would the phenomenon of fratricide occur?

Dr. Brown. I do not think there would be any in the existing Minuteman silos. They are too far apart. I would not expect very many of the Minuteman silos, whether they are carrying MX's or Minuteman, to survive an all-out Soviet attack with their missiles. I think few would survive. I do not think that we have solved the vulnerability problem with the MX insertion into the Minuteman silos.

But you do have to look at the survival of the overall force, and the bombers, and the SLBM's would survive.

DEPLOYMENT OF MIDGETMAN

Senator Wilson. What is the expected time required to develop the so-called Midgetman?

Dr. Brown. Well, the Commission's report, I think, says early 1990's to deployment, and I think that is a reasonable estimate. I think it is the kind of thing you can do in 10 years with a reasonable degree of confidence. Conceivably, you could cut it down to 8 years, but I doubt it.

Senator WILSON. How, then, would the deployment of the Midgetman add to the impression that we have done something to counter and to strengthen the ICBM posture, as the Soviets may be gaining an edge on our present sub-launched capacity?

General SCOWCROFT. Yes, Senator. We believe that the small missile, hopefully in a mobile basing, for example, which would provide survivability, would also be a hedge against a breakthrough in Soviet ability to attack our submarines and also would lend some survivability to our ICBM silos as well, since they would not be able to take out both.

Senator WILSON. As an alternative to the Midgetman in the interval between now and the early nineties, would it not be possible to upgrade the Pershing II to add a third stage that would extend this range?

General SCOWCROFT. We looked at that, Senator, and in our judgment it would be a marginal program. It would yield marginal ICBM capability, and the amount of time that would be saved did not appear to us to be worth reducing the expectations for the force. In addition, we still have the problem of basing, which we think will take some time to solve.

Senator WILSON. Thank you, Mr. Chairman.

Thank you.

Chairman TOWER. We will begin the second round now. I will withhold my questions for the moment.

Senator Stennis?

Senator STENNIS. Mr. Chairman, may I do the same? I am preparing to leave, but I am very much impressed with the way you have chaired these hearings.

Chairman TOWER. Senator Warner?

Senator WARNER. Thank you.

MPS

Gentlemen, I would like to return to this issue of what is the best system militarily for the Nation. You know, politics be damned. We as the Congress ought to be doing what is best to protect us and contribute to arms control at the same time. Visiting again the question of the MPS, if we were able to do that, would you urge that we consider the MPS in the context of your report, General Scowcroft?

General SCOWCROFT. I think in an ideal world, without the arms control context, just in terms of military effectiveness, a modified MPS would be a good solution.

Senator WARNER. Well, now, recollecting the extensive debate we had on MPS, you had the choke point which lent itself to verification and other features from an arms control standpoint. Are you suggesting that the combination of MX–Midgetman is the more saleable package than is the old MPS?

General SCOWCROFT. Yes, I am.

Senator WARNER. What are the advantages?

General SCOWCROFT. I think in a sense MPS is a functional equivalent of going to the small missile. In other words, MPS distributes the warheads over a number of empty silos as a functional distribution. It is less attractive than the small missile in that it depends on preserving the uncertainty as to where the missile is. If you do not preserve that, of course, you have nothing better than putting it in the silos.

In addition, you have a very large missile which is more difficult to make mobile. Otherwise, it does the same thing that the small missile does. CSB is different. It is simply improving the hardening aspect and relying upon fratricide. It does not go the small missile route in terms of survivability.

Senator **Warner**. Secretary Brown, would you suggest we revisit the MPS?

Dr. **Brown**. Well, I find it hard, Senator Warner, to put myself back into the frame of mind of 1976 and 1977. Too much has happened.

Senator **Warner**. Well, give us some examples of what has happened.

Dr. **Brown**. What has happened is that the original MPS was received by some of the political leaders and some of the citizens in the States into which it was to be located with something less than a complete welcome, and that played, along with the 1980 political campaign in a way that caused the then candidate Reagan to reject that.

Senator **Warner**. We recognize that.

Dr. **Brown**. I think there is no way to go back to that. You are practical political people much more than I am, and so you have a better judgment on that than I, but my judgment is that there is no way to go back to that.

Senator **Warner**. From a political standpoint?

Dr. **Brown**. From a practical standpoint. It is not just a political standpoint. I have some doubts as to, had the Carter administration been returned to office, whether it actually could have gotten through all the legal and public and other challenges that would have been made.

I have less doubt that President Reagan would have been able to put that system through in that region, because of his own political popularity and clout there, but that is an academic question, because he was on the other side of the question.

Reopening all that may be of interest to the Congress, but my own judgment is I do not think it is going to work.

Senator **Warner**. I do not think the Nation has awakened to the complexities of this small missile yet. It is now going to be distributed in a number of geographic localities. There will be tremendous security problems. Your basing mode is still undetermined. It is likely to be a variety, some in hardened silos, some mobile. So once this begins to settle in, we may have a commensuate and equivalent amount of political problems, as we did in the MPS.

Dr. **Brown**. There are two analogous advances that I think apply to the two modes of small missile basing, and they both have to do with hardness. To the extent that silos can be hardened to a considerably higher degree than the existing ones, and I think they can be, although I am very much a skeptic about the extreme claims, then you can space them closer together without going to closely space basing and without relying too heavily on fratricide, and put them on military reservations.

That certainly reduces the public interface. It reduces the legal and environmental questions. Similarly, to the degree that you can harden a mobile version of the small missile, and clearly, trying to put MX or D–5 or even Minuteman in a mobile version that would be hardened poses enormously greater difficulties just because they are so much bigger, you may be able to keep the mobile systems on military bases and still require the Soviets, if they are going to attack them, to use a very large barrage with thousands of warheads.

That, again, reduces peacetime interface with the public. So, those are two advantages. They are going to take quite a while to explore, and as I said, in my judgment, they are going to be helpful largely to a degree that depends heavily on how much you can get in the way of an arms control and reduction package that reduces the number of ICBM warheads allowed.

But that is promising, but it is not in hand.

Senator **Warner**. The Midgetman concept was around when you looked at MPS. Was that a competitor, and if so, why was it rejected?

Dr. **Brown**. It was. We looked at it in both modes. It was looked at in a mobile mode, and at that time there were no very promising ideas for making it hard, and if it is not hard, then a barrage, an attempt to cover a whole area with a few pounds per square inch, does not take very many Soviet warheads. That means that putting it on military reservations would not do. You would have to have it out on the roads, and out on the roads, I think, is politically infeasible.

We looked at small missiles in fixed silos as well, but when you are thinking of several thousand of them, the costs become, I think, a great barrier to going ahead that way. Hardening is the difference, and I think hardening has made advances since that time, although not as much as some people claim.

Senator **Warner**. In your opening statement, Secretary Brown, you addressed the Soviets and their priority of survivability and how they are proceeding to harden bunkers into which the leadership is to go in times of conflict. They place a heavy emphasis on defense, civilian defense and hard target capability in terms not only of their missiles but their command and control.

They are moving in a direction dramatically different, I would say, than what we are moving in. Does this lead you to the conclusion that they are proceeding toward a first-strike type of doctrine?

Dr. **Brown**. No, I do not conclude that. I do believe that the Soviets may take a somewhat different attitude than we do. They believe, I think, that deterrence is best served by having a superiority in military capability, and that although there are conflicting strands in Soviet strategic thought, there is a strand that says that you ought to be ready to try to survive in case a nuclear war comes—that a nuclear war would be incredibly devastating but that it is worth, both for purpose of deterrence, and if a war actually comes, doing as much as you can to make the structure of the state survive and the military forces survive.

That is why I think they put so much priority on their ICBM's, the survival of their military forces, the survival of their party leadership and political and military leadership. I happen to think that it will not work, that if a nuclear war comes, the party leadership and the political leadership and the military forces will be wiped out along with everything else.

But it does not matter what I think. What matters is what they think, because what we need to do is deter them not only from a bolt out of the blue attack, which I think they are deterred from. There is nothing that they see that is worthwhile to gain that would warrant a bolt out of the blue attack. We need also to deter them in times of extreme tension, in times when U.S. and Soviet forces might already be engaged.

And to that end, it is imperative that we leave absolutely no doubt in their minds that if there is a war everything that they consider important to preserve is going to get destroyed, and therefore there is no possible advantage to initiating a nuclear attack.

Senator **Warner**. And for that purpose we need the MX?

Dr. **Brown**. I think that we ought to have the MX for that purpose.

Senator **Warner**. Thank you very much.

Chairman **Tower**. It is my intention to recess the committee shortly, come back at 2 p.m. to continue the second round.

Senator **Exon**. Mr. Chairman, did I understand you to say you are about to adjourn the hearings?

Chairman **Tower**. I am about to recess until 2 p.m. when we will continue the second round.

Senator **Exon**. Will both of the witnesses be back at that time?

Dr. **Brown**. I cannot be back.

Chairman **Tower**. Dr. Brown will not be with us, but General Scowcroft is overjoyed at the opportunity and looks forward to it very much.

Senator **Exon**. I have been trying to get in some other questions. I assumed we would go until 12:30. The chairman is leaving now. Is that right?

Chairman **Tower**. I am informed that Dr. Perry will be here this afternoon, so——

Senator **Cohen**. Is that to say that Dr. Perry speaks for Dr. Brown?

General **Scowcroft**. Dr. Perry cannot be here today.

Chairman **Tower**. Dr. Deutch will be here.

General **Scowcroft**. I can bring someone else if you would like, Senator.

Senator **Exon**. No.

Chairman **Tower**. We also tried to get one or two others who will be in attendance at this brunch that they are attending. We will try to make it interesting for you, Senator.

The committee will stand in recess until 2 p.m.

[Whereupon, at 12 p.m., the committee was recessed, to reconvene at 2 p.m. the same day.]

AFTERNOON SESSION

Chairman **Tower**. The committee will come to order to resume the hearings with the chairman and members of the President's Commission on Strategic Forces.

I will recognize Senator Stennis.

Senator **Stennis**. Mr. Chairman, may I pass for the time being, please? I am not quite ready.

Chairman **Tower**. Senator Exon?

Senator **Exon**. Thank you very much, Mr. Chairman.

Mr. Secretary, we welcome you in joining the panel this afternoon, and I will continue in my second round of questioning. I will start out with a question directed at the general, with the understanding that if any of you have comments on it, I would appreciate the fact that you would just jump in and give your views.

I would like to ask you, General, how many times did you, as Chairman of the Commission, visit personally with the President about the duties of the Commission. We all know that you were there giving your report, but I mean in addition to that, previous to giving the final report, how many times did you meet with him, and could you tell us what the basic charge was that he gave your Commission and what were the parameters, if any, on what you should and should not get into?

General **Scowcroft**. Yes, certainly, Senator. I met twice with the President in that context. The President gave us the broadest possible charge, which was to look at the modernization of our strategic forces, and he placed no limitations on the Commission's findings. We were able to operate in complete independence. Indeed, many of the specific things we were asked to look at were repetitions from the joint resolution which resulted from the December deliberations on the Hill.

Chairman **Tower**. Senator, would you withhold for a moment? I am remiss in failing to note that this afternoon we are joined by another distinguished member of the Commission, Jim Schlesinger, who has served in so many different capacities in Government in both Democratic and Republican administrations, as Secretary of Defense, as Secretary of Energy, and we are delighted to have him as a member of the Commission here this afternoon. I simply wanted to note his presence before we go forward.

Senator Exon?

Senator **Exon**. If I could follow up on that question, General, part of the recommendation that the Congress gave to the President with regard to the whole MX study was to request a broadening of the considerations and the language had to do, and I quote from it:

> * * * a comparative detailed technical assessment of the alternative programs, including acceleration of the Trident II program to provide target coverage equivalent to that of the MX missile system, enhancements and improvements in the Minuteman missile force, and develop the land-based missile in deep underground basing, multiple protective shelters in closely spaced basing incorporating mobility and deception, a road mobile missile, smaller than the MX, and a common missile for land and sea development.

I would take it that the road missile smaller than the MX is indeed the Midgetman, or whatever terminology one would want to place on it, that obviously you gave some consideration to it. In fact, it is one of the key recommendations of the Commission. Could you explain in a little more detail what thoughts were given to the Commission on the other options here? We have talked some about the Trident II program among other things that came up in the questions this morning. I did note that Secretary Brown indicated, I thought, quite a surprising figure. I think he said that the D–5 or Trident II is scheduled for 3 to 5 years after the deployment of the MX. We have unclassified information on the record that I believe still holds, and I think I asked the question the last time we had the Joint Chiefs in.

At that time, they were still saying that the D-5 would trail the MX, even the accelerated schedule of the MX, by 2½ years. Is that right, or is the 3 to 5 more accurate, as Secretary Brown said this morning?

General **Scowcroft**. I believe what Secretary Brown was commenting was the D-5 missile as a substitute for the MX, that is, in a land-based mode. And that, of course, with the modifications that would require I presume, results in somewhat longer than the D-5 for its primary deployment.

SYSTEM ALTERNATION FOR MX

Senator **Exon**. Would you or the others comment on the other thrust of my question? How much time was put on—How much really did you get into not only the D-5 but deep underground basing? If I remember correctly, you did recommend a continuation of a study for deep underground basing possibilities in your report? Is that correct?

General **Scowcroft**. Yes, we did. We looked, Senator, first of all at the extent to which other elements of our strategic forces could take up some of the role which heretofore had been played by the ICBM forces. We looked at various other missiles than the MX, and we, in addition, looked at various basing modes for the MX or for a substitute missile.

So we looked at all those things, and the result of our examination was the recommendation that you have, and we do comment on all of those other considerations to a greater or lesser degree in the report.

Senator **Exon**. Would the other two panel members amplify a little bit on that? I guess I still have a feeling that maybe we did not look at or at least give proper weight to some of the other options that were available to us, and I am just—I want to keep prodding to see how much time you did spend on these other options.

Dr. **Deutch**. Senator, perhaps maybe I could provide some information on that question. We did discuss all of the system alternatives that you mention and that were in the resolution.

We also looked at some other possibilities like vertical MPS and in particular I would say that a very large fraction of the first month or month and a half of our deliberations was spent in a detailed assessment of closely spaced basing and closely spaced basing with deception, including, I would say, tens of hours of technical presentations on the status of hardening and fratricide.

We did look into that in enormous detail. Just to give you an example, I believe that the whole Commission heard tens of hours on that subject. We looked at the common missile. We looked at the D-5 both as a replacement in Minuteman silos and other land-based silos as well as in Trident.

So, while there was a difference in balance about how much time was spent on each one, in some cases the amount of investigation, I think, was quite thorough, involving hours of testimony of a highly technical nature, before many of the Commission members reached a view. And I would point to the question of hardening and what its prospects for the future are as being one of the particular places which receive the Commission's attention.

General **Scowcroft**. Senator, we did not do the detailed technical assessment of all the questions that were requested. The Air Force will be submitting separately a technical response to some of those questions that we thought that the Commission should not deal with itself, but in all the major issues, yes, we did.

Would you like us to run down——

Senator **Exon**. No, I do not think it is necessary to run them down. If you could provide for the record, so that I could take a look at it, maybe some of the details, without taking up a lot of time to do that now.

General **Scowcroft**. Of course.

[See testimony of Air Force Chief of Staff, Gen. Charles Gabriel, April 21, 1983, pages 162–210.]

Senator **Exon**. Secretary Schlesinger, I just want to tell you that what I said to the other gentleman this morning, I have the highest regard for each and every one of you, even though I am not sold at this time on the report that you all unanimously signed. You all unanimously signed that report. It raised some questions in my mind from some of the conversations I have had with many people in this regard.

Let me see if I can maybe sum it up in this question. General Scowcroft, you testified this morning that the small missile was necessary to reduce the high value of the target that the MX presented to the Soviets, and certainly it seems to me that this sets up somewhat of a contradiction in the Commission's two primary recommendations, first that we deploy the MX where we know it is vulnerable, and it was certainly made clear here this morning that you recognized that it was vulnerable.

I complimented you this morning for doing one thing, and that was basically to destroy the myth of the window of vulnerability that has mesmerized some of our thinking, I think, in the last 2 or 3 years. Certainly we know that the MX in Minuteman silos, we are placing them in holes that are already targeted for destruction by the Soviet Union, that they would not have to move a single dial on their computer. All they would do basically, it seems to me, is to project the same number of missiles at a 10-warhead missile, where they now have targeted with Minuteman II's with one warhead or Minuteman III's with three warheads.

So it seems to me that what we are doing is, by putting them in Minuteman silos, is presenting the Soviets an advantage to expend no more of their missiles to take out one of our very large and very important missiles. And then the contradiction, it seems to me, was the recommendation that we rush on to the deployment of the Midgetman missile, because we admit that while we are deploying the MX, it is vulnerable.

Now, in this whole scenario, will you explain to me why you think that is not a contradiction, other than the fact that you might say we need some of this protection until the Midgetman comes on board? I would point out to you, though, that from the time scenarios that you have outlined, and that I think are correct, the Midgetman missile that you look to as a follow-on, at least to take the place of the vulnerable MX, would be deployed some time after the D–5 missile on the Trident II submarine.

And are you saying that we need the Midgetman in addition to the D–5?

General SCOWCROFT. I tried to cope with your question this morning. Why do I not let Secretary Schlesinger give you a fresh perspective on it?

Mr. SCHLESINGER. Mr. Chairman, my answer may be a little bit lengthy, and I hate to intrude at length on Senator Exon's time.

Senator EXON. My time is up anyway, so go ahead, as far as I am concerned.

[General laughter.]

STATEMENT OF JAMES R. SCHLESINGER, FORMER SECRETARY OF DEFENSE; AND LT. GEN. BRENT SCOWCROFT AND JOHN M. DEUTCH—RESUMED

Mr. SCHLESINGER. I think it was a well-timed question, Senator. Senator, your question goes to the very heart of this issue, and therefore, if I may, I will speak at some length in regard to it, because the fundamental question we must ask ourselves at the outset is for what purpose the United States deploys its forces.

We deploy our forces to deal with a whole range of contingencies. There has been a tendency in recent years to deal with the issue as if the only contingency were a Soviet attack on the North American continent, the so-called bolt from the blue. But that is a very, very unlikely contingency for reasons that I can come to in a few minutes.

The main thing to bear in mind is that we are attempting to prevent nuclear war, indeed, a major assault on the interests of the North Atlantic Alliance, in which our strategic forces continue to play a large role. There are elements of the force posture that serve a greater purpose in deterring attack against Western Europe, nuclear or conventional, than they do in deterring attack against the United States itself.

It is in that aspect that you, I think, Senator, see a potential contradiction. There are several purposes for which we deploy forces, and therefore a mix of forces at the present time serves to help deter not attack on the United States but attack on Western Europe. The Soviet Union has been given a relatively free ride since 1972 with regard to the development of counterforce capabilities that have not been matched by the United States.

Under these circumstances, the Soviet Union has very little incentive seriously to negotiate about the expansion of those counterforce capabilities. The role that the MX plays, putting aside the question of silo vulnerability for a moment, is to pose for the first time since the sixties a hypothetical threat against their ICBM forces which until this moment have been relatively secure.

By doing so, we strengthen deterrence in Western Europe in a way that cannot be achieved with our strategic forces so long as those forces have no counterforce capability and the Soviet Union has extensive counterforce capability. The MX in a Minuteman silo is no more secure, indeed, somewhat less secure against a Soviet attack than is the Minuteman missile itself, because of the loss of rattle space.

But it strengthens our overall deterrent posture. Now, nuclear war, if it comes, and I do not believe it will come as long as we do what is sensible, is much more likely to come as a result of escalation from a European engagement than it is a decision with regard to a bolt from the blue by the Soviet Union. The question of silo vulnerability, important as it is, is primarily addressed to that issue of silo vulnerability in the bolt from the blue case rather than the overall strengthening of our deterrent with regard to Western Europe.

SOVIET ACCURACIES AND DESTRUCTION CAPABILITIES

Senator Exon, there is one other aspect to the question, and that is, we calculate Soviet accuracies and destruction capabilities based upon extrapolations from what we see as their test range experience reflecting inferences drawn from our own test range experience. That is entirely different from the design by the Soviet Union of an all-out attack against the United States.

Nobody has ever fired a missile north. Nobody knows the effects of firing north. The United States, which is at least technically equal and probably vastly superior to the Soviet Union, thought some years ago that it would launch an assault against Tehran to bring back our own captives. Were we successful? No. And the reason the mission was aborted was because of a technical deficiency in helicopters, in which we had had extended experience.

Now, we take the case of the Soviet Union, a nation which finds it hard to build a lightbulb that works for long periods of time, matches that work, construction activities in which buildings will stand for half a century, and we must ask ourselves not what we fear as to the accuracy of their missiles that we infer from test range experience, but rather we must ask ourselves what degree of confidence could the Soviet Union have in planning such an assault?

And the answer, I think, would be quite low. When the political membership of the Politburo asks the general officers with what degree of confidence can you attack these silos, even if the answer were to be a very high degree of confidence, given the experiences of the Soviet Union in the Finish war, in the Afghan war, in World War II, the political leadership of the Soviet Union will continue to have great skepticism about that expressed degree of confidence.

Therefore, I think that we have brooded in a way that suggests preoccupation about that bolt from the blue against the United States, which is the issue most directly related to silo vulnerability. Our purposes here, I cannot speak for the Commission, but I have spoken at length to the Commission, and I think that it is correct to say that the Commission believes it is the overall strengthening of the deterrent, including better capability to fulfill our obligations to Western Europe.

Surely, Senator, we would all be happier if we knew we had invulnerable silos, but the failure to provide invulnerable silos now does not mean that the investment in the MX does not substantially augment the deterrent. The purpose of the deterrent is to keep the peace, not only to prevent attack on North America and on our silos, but to prevent the development of serious Soviet aspirations to move against Western Europe.

Chairman Tower. Senator Cohen?

Senator Cohen. Thank you very much, Mr. Chairman.

COUNTERFORCE CAPABILITIES

If I could perhaps return to the subject of counterforce capabilities, General Scowcroft, am I correct that in the Commission's report you intend to replace Minuteman III's with the MX?

General Scowcroft. Yes, that is our proposal, Minuteman III.

Senator Cohen. So you are going to put in 1,000 warheads and replace 100 Minuteman III's, which would be 300 warheads, giving you a net of 700?

General Scowcroft. That is correct.

Senator Cohen. I was wondering if you had an opportunity to review during the course of your deliberations a study that was done by NATO. I believe it is called NATO and the Warsaw Pact Force Comparisons. Have you ever seen that publication?

General Scowcroft. Yes, sir.

Senator Cohen. I have a copy of one of the studies that was done, and I will pass it down to you. I am intrigued by the numbers, because they draw a comparison between NATO ICBM force vulnerability and the Soviet Union ICBM force vulnerability.

For example going with the calculations of two warheads, whether they be on the SS–18 or SS–19, targeted against each of our Minuteman II or III launchers, and two Minuteman III warheads targeted on each Soviet ICBM silo there is a force level here on the chart on the left which shows that it would require about 2,100 hard target warheads to eliminate our ICBM force, and that the Soviets have developed a capability more than two times greater than that. They exceeded 2,100 hard target warheads in 1978–79.

By comparison, if you look at the chart on the right, it shows that we are actually below the line that would be necessary to put all their ICBM silos at risk, but that line shows a little under 3,000 warheads would be needed to target their silos with two warheads on each. Do you see those two charts?

[See charts p. 46.]

General Scowcroft. Yes.

Senator Cohen. The question I have is, in terms of what would be necessary to get us from our current force of about 1,650 Minuteman III warheads to add enough warheads to put them at risk, we would have to go up, let us say, over 1,000 warheads total, according to that chart. Is that correct?

In other words, to get to where we could put two warheads on every one of their SS–18 and SS–19 launchers, we would have to increase our number of available RV's from where it is now, from about 1,650 up to just under 3,000.

Dr. Deutch. I think that is correct, Senator, I would point out that those warheads would also have to have the requisite yield depending upon Soviet silo hardness and accuracy.

MINUTEMAN PRODUCTION STATUS

Senator Cohen. Yes; I was going to get to that in a moment. Nonetheless, we have to have about 3,000 warheads. The question I have now is, what is the status of the Minuteman production line? You indicated that it was shut down. What year was it shut down?

General SCOWCROFT. It was shut down in 1977, I believe.

Senator COHEN. 1977. And what is the profile of the Minuteman force? We have heard, for example, that the Minuteman missile is 15 years old. The design is 15 years old, but the missile itself is not necessarily 15 years old, is it?

General SCOWCROFT. Certainly not all of them; no.

Senator COHEN. Do you have a breakdown on the age of the Minuteman missile force?

General SCOWCROFT. No; I do not, exactly. My recollection is that the Minuteman had a designed life, and Secretary Schlesinger might know of this, of about 10 years. Certainly some of them are older than that. Some of them are newer than that. The line was suspended, I believe, in 1974, opened up again in 1975 or early 1976 briefly, and then shut permanently in 1977.

Senator COHEN. The reason I point to this chart is because if you look at the numbers, while the Soviets could by targeting two warheads on each of our silos, put our ICBM force at risk, they eliminate less than 25 percent of our total strategic warheads in doing so.

By contrast, if we were able to target two warheads against each of their SS-18 and SS-19 launchers, we would put almost 50 percent of their ICBM launchers and more than 50 percent of their total number of warheads at risk. So, we have a significant counterforce capability, assuming we have the kind of yield and accuracy that would be necessary to lay two warheads on one of their silos.

We put 50 percent of their major strategic force at risk, compared to 25 percent of ours. Right?

General SCOWCROFT. Yes.

Senator COHEN. So I think that has to be taken into account as we look at the numbers on how we might redress that.

Mr. SCHLESINGER. Depending, of course, on the size of any U.S. counterforce deployment.

Senator COHEN. Right; which would bring me to the subject matter of yield. What is the yield of the Mark 12A; 350 kilotons?

General SCOWCROFT. Yes.

Senator COHEN. And some do not have that kind of megatonnage; do they?

General SCOWCROFT. I believe they are 300.

Senator COHEN. How many Minuteman III missiles do we have in storage?

General SCOWCROFT. About 100, I believe.

Senator COHEN. What would be the feasibility of deploying Mark 12A warheads with improved guidance systems on the remaining Minuteman III missiles? In other words, upgrading all of them to the 350 kiloton range?

General SCOWCROFT. I see no reason why it would not be possible.

Senator COHEN. And what about on the Minuteman II missile?

General SCOWCROFT. I think there it is a substantial problem.

Dr. SCHLESINGER. You would have to change the guidance system, Senator.

Senator COHEN. Does the cruise missile have some counterforce capability, particularly when you are talking about dealing with the Soviet reload capacity? In other words, if they were to fire a missile, the cruise missile, while not a first strike weapon, does have a counterforce capability in the sense that it could prevent reloading on their part?

General **Scowcroft**. Yes; we believe it does.

Senator **Cohen**. Has that been calculated into your report as well?

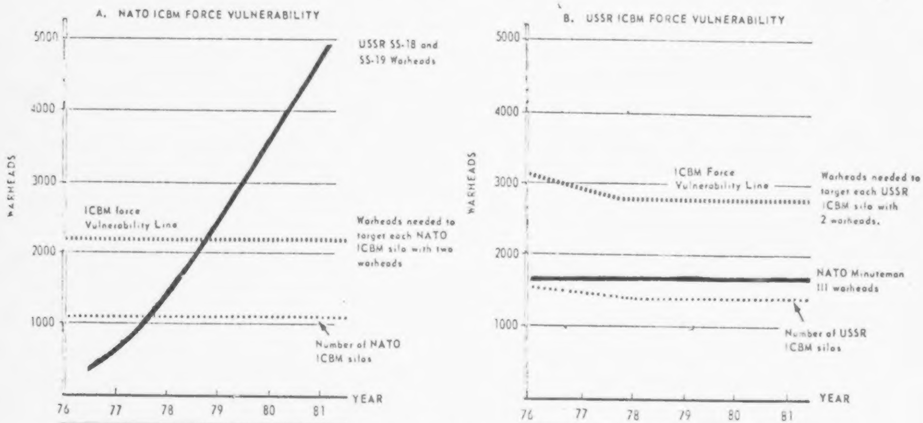
General **Scowcroft**. Yes; we believe it does. The cruise missile, as you know, just started its deployment. It has been a test program up until now. We do not know the extent to which the Soviets may be able to develop defenses against it for hard-point targets. But it does have the necessary accuracy.

Senator **Cohen**. Just for the record, Mr. Chairman, the source that I was quoting from is NATO and the Warsaw Pact Force Comparisons as published by NATO in 1982, with a covering letter by Joseph Luns. I would like to have that entered into the record.

Chairman **Tower**. It will be entered into the record.

[The information follows:]

LAND BASED ICBM VULNERABILITY



In order to assure a high probability of destroying a hardened ICBM silo, two high-yield and high-accuracy warheads must be employed. Only the US Minuteman III and the Soviet SS-18 and SS-19 ICBMs carry warheads with the requisite yield and accuracy. As the graph depicts, the US currently has about 1650 warheads deployed on Minuteman IIIs whereas the USSR has over 4800 warheads deployed on SS-18s and SS-19s (assuming maximum tested capability).

FIGURE 11

Senator **Cohen**. Just one final point. You indicated before that 100 MX missiles do not present a first-strike capability, the MX may be a first-strike weapon per se because of its accuracy, but in terms of the numbers, it does not present a sufficient threat.

What happens when you combine the MX with the D–5? At that point, depending upon the numbers, do you have a first-strike capability?

General **Scowcroft**. Yes, it is possible, depending on what happens to Soviet strength in the interim.

Senator **Cohen**. Dr. Schlesinger, I think one of the more compelling arguments during the course of the day—and one that I have not really resolved in my own mind—is the perception problem that you were talking about before: Does the MX itself present a lever to force the Soviets into some sort of arms-control agreement? I think that that is one of the major thrusts of the Commission's report.

We have now closed the window of vulnerability in terms of worrying about a bolt out of the blue, a pinpoint strike against our Minuteman silos, and we now are dealing with a whole strategic concept of whether or not there is a perception that we are being overwhelmed by Soviet technology.

You, Dr. Schlesinger, have managed to reduce the Soviets from 10 feet down to 6 feet, where they belong, I think, in terms of their technology. I recall Roy Medvedev, a so-called moderate historian in the Soviet Union who comes under considerable pressure from time to time because of his outspokenness—writing in the New Republic several years ago, saying, you Americans are fools. You think that because we cannot make lightbulbs that last very long or build houses that sustain the passage of time, or make trains or whatever, that we do not know how to build missiles. The one thing the Soviets do know is missile technology.

But you bring me back to the ultimate decision that we have to resolve. That is, what is the impact upon our European allies? To what extent do we need MX to demonstrate conviction and determination and cohesion to the allies? I suppose the allies are looking at what we do with MX and that affects Pershing III deployment.

I know you still maintain considerable contact with European defense personnel. What is your assessment, to the extent that we are not willing to go forward with the deployment of MX, the impact upon the INF negotiations or the Pershing II decision?

Dr. SCHLESINGER. I think once again that no single decision affects the prestige and image of the United States on a one-to-one basis. Nonetheless, this would be a major element affecting the views not only in the Soviet Union, were we to repudiate in effect the recommendations of four Presidents of the United States, but it would also have a major impact on our Eastern allies, coming in the train of differences over the neutron bomb, differences over pipelines and the like.

I think that it is no secret that there has been a decline of European confidence in the validity of American protection, and that a decision at this stage not to proceed with the MX would have an adverse political impact. It is not only that, Senator. The additional aspect is that the MX system is essentially designed for a strengthening of the European deterrent, of the European element of the overall deterrent of the Western World.

Were that to be struck down, it would strengthen, I think, those in Europe who say that there is no reliance that can be placed upon the strategic forces of the United States.

Senator COHEN. Thank you. My time is up. Thank you, Mr. Chairman.

Chairman TOWER. Senator Levin?

Senator LEVIN. Thank you, Mr. Chairman.

Dr. Schlesinger, if the Midgetman were available now for deployment, and given the present arms control situation, the Soviet threat as you see it now and in the foreseeable future, would you choose to deploy Midgetman alone, both it and MX, or just MX?

Dr. SCHLESINGER. I would proceed immediately with the deployment of MX. I think that I would proceed with the deployment of Midgetman, but that is somewhat more debatable. We are not under immediate pressure with regard to the overall vulnerability of our deterrent forces. We are under immediate pressure regarding the imbalance that exists with regard to counterforce capability which the MX was designed to cure.

Senator **Levin**. Would the Midgetman also cure that?

Dr. **Schlesinger**. Once again, Senator, it would require the deployment of on the order of 1,000 to 2,000 Midgetman to give you the same throw weight and capability against the Soviet Union. That is not going to come quickly. The MX provides you with immediate expansion of throw weight and counterforce capabilities. The Midgetman provides you with a greater hedge against a Soviet initial strike.

One of the major thrusts of the report, as I think General Scowcroft may have emphasized this morning, is that we can no longer combine in one single ICBM all of the capabilities that we want to have in our land-based forces. Therefore, I think the argument would be toward deployment of both, but the pressure right now comes from the absence of any counter to the Soviet position.

Senator Cohen is quite right. The Soviet Union, of course, is potentially more vulnerable, given their deployments to counterforce capabilities, but if and only if we have weapons that exploit that potential vulnerability.

WEAPONS OF COUNTERFORCE CAPABILITY

Senator **Levin**. Do we have weapons coming on board which do have that counterforce capability?

Dr. **Schlesinger**. We have them, at least on paper. I should say with regard to the D–5 that the D–5 was promised by the development people in an accurate mode by 1979, if I remember the exact date. A difference between the MX and the D–5 is that the MX capability has been developed. It is here now. Whereas the D–5, despite the hopes that we have, is something that still requires further development.

Senator **Levin**. Do you have any doubt that we have counterforce capability coming on board now, either through the D–5 or cruise missiles?

Dr. **Schlesinger**. That requires a further breakdown. The cruise missile provides counterforce capability, but only if the target stays fixed. We have no guarantee that the target will stay fixed. The difference between an ICBM and a cruise missile is the capacity to launch it and have it impact within 30 minutes. The cruise missile quite obviously is a different case. One has to launch the bomber force.

From the bomber force, the cruise missiles will be launched. It may be as much as 18 hours before those cruise missiles impact on targets. That means that if the target has escaped, as it were, the counterforce capability is merely hypothetical.

Senator **Levin**. Do you agree with the statement there are many, many different alternative actions that we can take if the Soviets were to shoot just at our Minuteman, assuming that we did not fire back before they were destroyed, but we could hit their urban industrial complexes, we could hit their conventional military forces, we could hit their nuclear forces?

The only thing that is missing from this scenario is the ability to hit their strategic ICBM's within half an hour or an hour instead of 10 hours. As former Defense Secretary Harold Brown said, "I submit that is not a central issue in the midst of a catastrophic thermonuclear war." Do you agree with that statement?

Dr. SCHLESINGER. I think that until the last statement, I agreed with it. The assumption of a catastrophic nuclear war is one that I would at least defer on. One must examine the scenario with considerable care. In the event of a catastrophic nuclear war, Senator, I think that those conclusions follow. If cities have been struck, the exchange of weapons between major systems capability becomes rather a form of abstraction.

Senator LEVIN. That used to be Dr. Brown's position I do not know if it is any more. People change positions so frequently around here on these subjects now, and I did not have a chance to ask Dr. Brown whether or not he still believes that, but that was his position when he was Secretary of Defense.

Dr. SCHLESINGER. I think Dr. Brown should speak for himself on this particular issue. I think that I have displayed astonishing, if rather adamant, consistency.

Senator LEVIN. General, I asked you this morning whether or not anybody advocated the position that we should not deploy the MX unless we have a survivable basing mode for it. I would like to ask you the question in a different way.

At some point during your deliberations, people must have made proposals. Somebody must have said, let us do this, let us do something else. Is that a fair statement? I mean, somebody at some point had to say, let us do it this way or that way.

General SCOWCROFT. Yes.

RELUCTANCE OF PUTTING THE MX IN FIXED SILOS

Senator LEVIN. Did anybody at any point in your deliberations say let us not deploy the MX unless we have a survivable basing mode for it? I will not ask you who, but I would like to know whether anybody at any point during your discussions advocated that position.

General SCOWCROFT. I do not recall anybody specifically saying that, but, Senator, you see, as I tried to point out this morning, we tried to approach it in a very different way. Instead of taking early polls as to what people's positions were, we tried to investigate, first of all, the course of the MX, the history of the MX, how we got to where we are now, what the alternatives were, and so on—our consensus developed gradually. It is difficult for me to pick out somebody saying, "I think we ought to do this," or, "I think we ought to do that."

Senator LEVIN. I am not asking you to pick out somebody, but I presume people took different positions on the issues, and then you worked out a consensus. There was not an automatic consensus where everybody said, by God, eureka, let us do what we said we would never do. I mean, there must have been some discussion and some proposals.

General SCOWCROFT. There was considerable discussion.

Senator LEVIN. And there must have been proposals people threw out tentatively on the table at some point. I am not saying at the beginning there was a poll, but at some point someone had to open up their mouth and say, "let us do this."

Now, my question is, at any time, early, middle, or late in your proceedings, did anybody advocate the position, "let us not put the MX in a fixed hole?" Did anybody ever advocate that position?

General Scowcroft. I would say that there was reluctance on the part of a number to do that—to deploy the MX in a vulnerable mode.

Senator Levin. I would hope there would be a lot of reluctance, because people have taken that position for years. As a matter of fact, we have been driven to the MX missile based on the allegation that Minuteman was in a fixed silo and therefore vulnerable. That is the principal thing which has driven us in this direction. That is a matter of history.

I know you do not accept that as the current reason. There is a current justification.

General Scowcroft. I do not even accept that as the principal reason. Principally, it was originally designed for modernization.

Senator Levin. We can go back into history and give you many, many quotes from just about everybody on every side of the subject. They all agreed on that one premise, that—my question is if anybody in your Commission advocated the position, advocated the position at any time, that we not put the MX in a fixed vulnerable silo? It is a straightforward question.

General Scowcroft. I think not, Senator, for the simple reason that by the time we got to advocacy we had gone sufficiently far through our examination of it that that was not a feasible deployment.

Senator Levin. Now, were you a member of the Townes committee?

General Scowcroft. I was a member of the first Townes committee, not the second.

Senator Levin. And on the Townes committee, I understand that there was a minority report which said precisely that, that we should not put the MX missile in fixed silos; is that correct?

General Scowcroft. I believe so, yes.

Senator Levin. Were you a member of the minority or the majority of that committee?

General Scowcroft. I was not a member of the minority.

Senator Levin. So you recommended at that time that we put them in fixed silos?

General Scowcroft. No, not exactly.

Senator Levin. Well, what was your recommendation at that time, on the first Townes committee?

General Scowcroft. The first Townes commission panel recommended as a unanimous recommendation that we investigate the possibility of a continuous airborne alert for deployment of the MX. A majority of the commission recommended an attenuated MPS deployment, 100 in 100 silos, but expandable into an MPS deployment depending on the Soviets' reaction.

Senator Levin. And the minority recommended, did it not, that we not deploy MX at all if there were not a survivable basing mode?

General Scowcroft. That's correct.

Senator Levin. And you were not part of that minority?

General Scowcroft. I was not.

Senator Levin. At least that position had some advocates at that time?

General Scowcroft. Yes.

Senator Levin. My time is up. Thank you.

Chairman Tower. I want to take a minute of my time to say that I would disagree with Senator Levin that the motivation of the development of the MX was solely to design a missile to go in a more survivable mode. I believe that modernization is what drove us in the first instance. My guess is you could find people from the Department of Defense in the period 1972 to 1976 and 1977 who would say that it was their original intent that this missile was to go into existing Minuteman holes.

So the original driving idea behind it was modernization.

Senator **Levin**. My word was 'principally," Mr. Chairman. I said "principally the motive."

Dr. **Schlesinger**. Mr. Chairman, I am perhaps the originator of the MX, and at the time that we designed the missile we intended to put it into Minuteman holes. The driving purpose behind it, as after 1972, after May 14, 1972, when we signed the offense arms agreement and the ABM Treaty in Moscow and the Soviets thereafter had an explosion of research and development activity leading to the deployment of SS–17, SS–18 and SS–19, was to provide a large throw-weight missile, which during the sixties the United States had failed to pursue.

The purpose of it was to match the Soviet Union, if need be, but preferentially to persude the Soviets to reduce the throw weight in what was then the SS–9 as they proceeded to MIRV the force. That was the overwhelming motive at the time.

Basing considerations, while important, were secondary.

Chairman **Tower** Dr. Deutch?

Dr. **Deutch**. Thank you, Mr. Chairman.

I would like to make a remark about the question. "Was there anyone on the Commission who advocated not deploying the MX missile unless it was in an invulnerable mode." I think it is a very understandable question, and one might wonder why there was not one, or indeed all, of the members of the Commission who examined that point.

Let me say that I think the reason was quite a simple one that it did not come out that way, Senator Levin, and that is because it is not possible to find in isolation an invulnerable basing for MX. In fact, the Commission early on, took a different route and I think a more sensible route, a route which asks you to consider the vulnerability of your entire force, and which led to a combined program of MX deployment with arms control efforts and with a small ICBM.

If the issue is, "Is there an invulnerable mode for MX basing taken in isolation without reference to arms control agreements or other parts of your military force structure," I believe that all members of the Commission would say the answer is, "No."

Chairman **Tower**. Senator Humphrey?

Senator **Humphrey**. Thank you, Mr. Chairman.

I apologize to the gentlemen for not having had a chance yet to read your report. Likewise, I imagine some of the things I ask will be repetition of something that has gone before.

But nevertheless, the net of what you have said here, as I have heard it, is that the United States needs to deploy MX in Minuteman silos because it needs more fast reaction hard target capabilities. Is that a correct interpretation?

General **Scowcroft**. That is one of the reasons.

Senator **Humphrey**. In response to Senator Cohen, you stated that your recommendation would replace 100 Minuteman III's, each with three warheads, with a like number of MX missiles, the Peacekeeper?

In any case, MX, each with 10 warheads, for a net increase of 700; is that correct so far?

General SCOWCROFT. Yes.

Senator HUMPHREY. I am a hawk, in plain English. But I have to agree with the sentiments of many Americans that we have got enough warheads already. Are you recommending any offset elsewhere or is this going to be a net increase to 700?

General SCOWCROFT. We are not recommending a net offset. I would point out, however, Senator, that in addition to the 100 Minuteman III's that would be retired as a result of this, we are also retiring 53 Titan missiles, each one with a 9-megaton warhead. And in terms of throw weight—in terms of numbers of missiles—this is not even a replacement. In terms of warheads, it is an accretion of, if you count the Titans, about 650.

Senator HUMPHREY. Well, we are not exactly being magnanimous in retiring the Titans. I mean, they are slowly retiring themselves in any case, along with silos and airmen, unfortunately.

Now, what about the net effect on the numbers of warheads of the Midgetman proposal? In other words, what is the net effect on our numbers of nuclear warheads of your entire proposal, both MX and Midgetman? Is there a figure on that?

General SCOWCROFT. I think, Senator, that a figure is hard to come by now, because another essential element of our proposal is to bring the Soviets to the negotiating table in a serious manner, and we would hope that following our recommendations to change the counting rules to warheads and then proceed to sharp reductions, we would both create the environment for the new missile and deal with the warhead problem that you raise.

Senator HUMPHREY. I would say to the administration—I realize that they are not here exactly, but I would say to the administration that if they hope to sell this MX proposal and the Midgetman proposal they had better come up with some offsets.

Dr. SCHLESINGER. Senator, might I observe that your statement that we have enough warheads is correct insofar as we destroy an array of soft targets. We have more than enough to destroy the urban-industrial base, but not the class of targets represented by hard silos.

Senator HUMPHREY. Well, one of the arguments I find most effective in dealing with freeze advocates and those who do not understand the issue too well is that the total of nuclear warheads and bombs in the U.S. arsenal has been declining pretty steadily for 20 years. That is an amazing revelation when you tell people that. They cannot believe it.

Likewise in megatonnage. And it is important to make the distinction as to what the administration is trying to do, for the most part to modernize the delivery vehicles and not to increase the number of warheads.

You say that one of the reasons that is the principal rationale for MX is that we need a greater hard-target capability?

General SCOWCROFT. I think there are three: There is the additional hard-target capability to address the imbalance in ICBM forces; there is the impetus toward negotiations which I mentioned; and there is also the question of national will and cohesion, both for the Soviet Union and for our friends and allies.

As I indicated this morning, we have now had four Presidents who have said that the MX is important, if not essential, to our national security. One cannot put a figure on anything as abstract as national will and cohesion, but it is an essential element of deterrence, and it seems to me that the Soviets will be watching carefully.

Senator HUMPHREY. I have no doubt.

IMPETUS TOWARD NEGOTIATIONS

An impetus toward negotiations, you say. Does that imply that MX is a bargaining chip that we would give up?

General SCOWCROFT. I think bargaining chip to me implies that it is something you do not really want and you are doing it just to give it away. I think in that sense MX is not a bargaining chip. MX we feel is an essential element in producing a deterrent force that is important to our national security.

If one can get that same national security by some other means which would involve giving up some or all of the MX, I think we would all say, "Very well."

Senator HUMPHREY. Elimination of some or all MX, is that what you just said?

General SCOWCROFT. Yes, of course. If one can get an equal value from the Soviet Union by not deploying it, yes, of course.

Senator HUMPHREY. I have nothing further, Mr. Chairman. Thank you.

Chairman TOWER. In other words, we can draw a distinction between bargaining chip and negotiating leverage, can we not?

General SCOWCROFT. Absolutely.

Senator STENNIS. Mr. Chairman, may I go next? I passed in the beginning, gentlemen, and I am going to have to leave in just a few minutes.

I think we have had extraordinary testimony here this morning, very fine indeed. You were given a problem here that those of us in office over the years—it might include some of you—played a part in creating a little at a time. It hadn't gotten down to this thing.

Now you have worked on it, and there may be an implication there about what Senator Levin said regarding the unanimity among you. I hope you did not all start off with the same opinion and just went in there and came out with the report.

One of the oldest and best parts of our system of law is the jury verdict under the common law. You cannot render a verdict unless it is unanimous. To be legal, it has to be uniform and unanimous. So I am not afraid of your recommendation just because you finally got together. I disagree, maybe, along the way, pretty strongly.

I think that there is one thing that ought to be brought out here that goes along with the other testimony. These are not the only long-range weapons we have. We have the triad, as you know. As I understand now, we have only about one-third of our ICBM's that are land launched, whereas in the Soviets' case, they have about two-thirds of their total that are land launched; is that right?

General SCOWCROFT. That's approximately correct.

Senator STENNIS. Well now, that being true, to get this matter fully understood and also before the people, it seems like we ought to bring along the figures. Just by putting in more of these missiles, we are not going to catch up. If the Soviets continue at their pace and ratio, they will have twice as many missiles as we have in 2 years, 3 years, and 5 years from now.

But the big fact is that we do not have modern ones now, as I understand it, and none of us are fully satisfied with the basing mode, the one you recommended. But that is just the reality of things. It is move forward or stop and hold back again. Is that not what it amounts to with these land-based missiles?

General SCOWCROFT. Yes.

Senator STENNIS. As I understand now—and you mentioned it briefly this morning—the accuracy—you do not have to give anyone a bad score, but we are expecting more accuracy in this missile than any we have now at present.

General SCOWCROFT. Yes, we are.

Senator STENNIS. Which seems to me like a mighty big factor.

Now, do you want to comment on the relative numbers that we have in these missiles? It looks like they ought to have something to say about the sea-launched ballistic missiles from submarines, or does that have any direct weight in reaching your decision?

General SCOWCROFT. Senator, we feel it does not have over the short run. The problem over the short run is this disparity in ICBM forces, disparity in the capability of the relative ICBM forces.

As you indicated, we do not propose redressing that balance fully, but simply demonstrating to the Soviet Union that they do not have a free ride and that it is in their interests to come seriously to the negotiating table to work on something which will move both sides toward greater stability in their strategic forces.

Senator STENNIS. And another way to say it, without this moving forward in some capacity it just leaves us a blank card on that score.

General SCOWCROFT. We feel very strongly that the Soviets, whatever you think of them, are not philanthropists, and they do enjoy a decisive advantage now, and there is no particular reason why they should give it up without some inducement to do so.

Senator STENNIS. Dr. Schlesinger, do you want to comment on anything I have asked or said?

Dr. SCHLESINGER. Well, let me point out one additional aspect, that if one is looking at the sea-based forces, that the Soviets have 950 missiles, once again, and we have perhaps two-thirds that number. So that in terms of the missiles, which you raised a question about, Senator, they have an advantage in SLBM's.

We have chosen to fractionate a larger proportion of our force of the SLBM's, but once again they have at this point no capability against hardened targets.

Senator STENNIS. Doctor, do you have any comment on the question I raised?

Mr. DEUTCH. No, I do not have anything to add, Senator.

Senator STENNIS. That is all I have, Mr. Chairman.

General SCOWCROFT. Senator, if I could make one comment about the unanimity that you mentioned at the outset of your comments. I believe if you look at the members of the Commission and the counselors, you will find a number of strong-willed men there representing a number of different points of view. We did not all come at this from the same direction. We did not all emphasize the same points.

I think it is really a tribute to the importance with which the Commission members viewed this problem that they were able to come to a unanimous recommendation on it.

Senator **Stennis**. In a small way, I have been up against some of them myself. They are no pushovers, I know that.

That is all I have.

Chairman **Tower**. Senator Nunn?

Senator **Nunn**. Mr. Chairman, I do not know whether I really ought to be next or not. I have just come in.

Chairman **Tower**. Do you want to defer to Senator Bingaman and we will come back to you?

Senator **Nunn**. I think I should do that.

Chairman **Tower**. Senator Bingaman?

Senator **Bingaman**. I am glad for you to go ahead, Senator. Go ahead. I would like to hear your questions. I will not repeat them.

Senator **Nunn**. General, I am sorry I could not be here this morning. I had a previous commitment in my State and could not get back.

But I want to start by congratulating you and the Commission for rendering a public service to this country, and I think that whatever the outcome of deliberations on the MX, the overall consideration that your Commission gave to both strategic systems and arms control will be a permanent contribution to our national security. You have done a superb job, all of your Commission members. I hope that you will pass on my commendation to them.

INTERRELATIONSHIP BETWEEN STRATEGIC PROGRAMS AND ARMS CONTROL

General **Scowcroft**. Thank you, Senator. I would be happy to.

Senator **Nunn**. I do not know if you have gotten into this at all, but it seems to me one of the most important things you have come out with was the interrelationship between strategic programs and arms control. We have had various people looking at various components over the years, but I do not think we have ever had this kind of high-level group trying to at the very beginning weigh the effect of strategic programs on arms control and the effect of arms control on strategic programs.

I think one of the problems in the way we have divided up jurisdiction on this subject—and we have just gone through a debate on the head of the Arms Control and Disarmament Agency—we set up one group of people over here and say, okay, you wear the white hats and you worry about arms control, and you take care of these guys over in the Pentagon who are worried about strategic programs.

We pit those forces against each other. Sometimes that kind of competition is productive. But it seems to me that over the last few years it has become increasingly counterproductive, and we almost have two camps in this Government, one the arms-control camp and one the strategic-program camp.

So I think the fact that you had high-level people looking at both of these was one of the most significant contributions you have made.

Would you care to comment on that, the interrelationship?

General SCOWCROFT. We early came to the conclusion that that was a vital part of something that we could do—that both in the development of our strategic, and especially our ICBM systems, and in our arms control thus far we were approaching the end of an era—the one in terms of survivability with increasing accuracy of ICBM's and in the other that as we look at reductions and arms control with systems based on launchers, perversely enough, one tends to increase the instability rather than stability as one goes in that direction.

So we thought it was very important to integrate the two and to move both of them in the direction of greater stability. If we achieved anything new, Senator, in our deliberations of this vexing problem, I think it was that.

U.S. START POSITION

Senator NUNN. General Scowcroft, if President Reagan accepts your Commission report in total, what will this mean to the current tabled U.S. START position? In your recommendations, what would affect our arms control position as now tabled, in other words the U.S. position?

General SCOWCROFT. I think the first thing that would happen would be a modification or dropping of the 850 launcher limit, together with a reappraisal of whatever sublimits have been informally communicated to the Soviet Union and a move toward warhead counting limits as the unit of measure.

Senator NUNN. That would mean a real rethinking of our current arms control position at START, would it not? Would you not have to, if you did away with the launcher limit, would you not have to also rethink a lot of other integral parts of that position?

General SCOWCROFT. Yes, Senator, I would think we ought to rethink it very carefully and we ought to look at reductions very carefully, because not only the counting rules but reductions really ought to be designed over the longer term so that we at least reduce the ratio of warheads to launchers, with hopefully at some time in the future getting that to unity.

Senator NUNN. How key are arms control assumptions to your recommendations about the MX and the Minuteman? Let us assume hypothetically that there would be no arms control. Let us assume both sides do away with SALT II at some point for various reasons and there is no SALT III. If you took those assumptions, would your recommendations about MX, about a Midgetman, and about submarines be the same or would they be different?

General SCOWCROFT. Our report says that if all these things were to happen—no arms control environment, in other words an all-out unrestricted competition—that our recommendations would have to be reevaluated. I think it is probably fair to say that most, if not all, of the members, however, would probably recommend going ahead with some deployment of a small missile in any case, because it does enhance stability, it does complicate the Soviets' problem of attack, it does, by its very existence, add to the survivability of the MX, because if it is survivable then they cannot destroy the entire ICBM force.

The mix, the balance of all our systems, of course, I think would have to be relooked at in light of this development. The one thing I would say, however, is that I think our program gives us an enormous amount of flexibility to move in whatever direction the strategic environment indicates and Soviet negotiations or cooperation permit.

Senator NUNN. So you would be stating without any doubt at all that the recommendations made by your Commission will require a rewrite or a rethinking of our current arms controls negotiations with regard to strategic weapons?

General SCOWCROFT. I think certainly it would result in a re-examination. The extent of the change I think would depend on that re-examination. But as it stands right now, our START proposal is not fully compatible with our recommended direction in arms control.

Senator NUNN. Let me have just one other question and then I will yield back and come back when it is my time again, because I know others have been waiting.

Did your Commission fully consider or consider in detail the possibility, since the MX's are going to have the same degree of vulnerability as our existing systems, of, rather than going with the MX, upgrading the Minuteman, trying to achieve maximum accuracy there, and going forward with that?

COST TRADEOFF BETWEEN MX AND UPGRADED MINUTEMAN

If you did consider that, could you give us some idea of the cost tradeoff between the MX or upgraded Minuteman, and also the time element involved?

General SCOWCROFT. Yes, we did look at that extensively, Senator. And in the costs—and I am not prepared to say how rigorous they are. We are dependent, of course, on the Department of Defense for those analyses. The cost was about $9 billion as opposed to $14.5 billion, or a $5 to $6 billion difference.

It would come in some 2 or 3 years, we felt, later, or the Air Force felt, still later.

Senator NUNN. Which one, the Minuteman?

General SCOWCROFT. Minuteman modernization.

Senator NUNN. So the Minuteman would be cheaper but would take longer, is that correct?

General SCOWCROFT. That's correct.

Senator NUNN. Was there any disagreement on that in the Commission or was that unanimous also?

General SCOWCROFT. It was unanimous, because, in addition, we felt that even an upgraded Minuteman, while you could make it warhead-for-warhead more accurate than the MX would be, would not do the other things that we felt it was essential for the MX to do.

Senator NUNN. Well, I will get into that in great detail in the questioning with the Air Force. But Mr. Chairman, at this point I do not want to take any more time until my colleagues have completed their questions, and so I will yield back.

Chairman TOWER. Senator Bingaman?

Senator BINGAMAN. Thank you, Mr. Chairman.

Let me ask, Secretary Schlesinger. I asked this morning a line of questioning which was basically focused at the issue of overall balance between the Soviets and this country. It is an issue that I do not see explicitly discussed in the report.

Would you briefly summarize your position on whether we have an overall balance or do not have at this time in our strategic forces with the Soviet Union?

Dr. SCHLESINGER. Senator Bingaman, I think that that is a question that is very difficult to answer. The United States has a deficiency in one component of its strategic forces, namely hard-target kill. It has been the objective of the Government under several administrations and has been, I believe, the unanimous view of the Commission that this particular deficiency should be corrected.

When one gets beyond the issue of hard-target kill, the U.S. forces have major advantages on paper. The Soviet forces have some advantages on paper, but no one, happily, will ever know until the test of battle, which we fervently hope will not take place, what the real balance may be.

Senator BINGAMAN. Let me just follow up on that. If the deficiency is in hard target kill capability, I have identified—and I am not certain of the accuracy of all of this—but a series of things we are doing in the next 5 years to improve our position. According to what I can detemine, we are adding 3,300 air-launched cruise missiles, 500 sea-launched cruise missiles, 100 B-1 bombers, 6 Trident submarines, 464 ground-launched cruise missiles, 108 Pershings, and then the Trident II and the Stealth bomber would come on shortly after the 5-year period.

Is it your view that that does not solve the deficiency in hard target kill capability which you see?

Dr. SCHLESINGER. We do not know at this time that it would solve the deficiency. In the first place, the bombers are a replacement for a drawdown of existing forces. We are phasing out the B-52D's. We are planning to phase out almost two-thirds of our bomber forces.

With regard to the sea-launched missile, we have been promised for many years—and I certainly hope this latest promise is one that reaches fruition—that the sea-launched forces will have hard-target kill capability. But until that has actually been demonstrated, as it has been for ICBM's, one must be wary about promises.

One must recognize that there are major differences between sea-launched missiles and ICBM's with regard to their controllability, with regard to their accuracy. Most notably, if one wishes to launch a limited strike, that a submarine will not wish to expose its position. The Navy over the years has been understandably reluctant to contemplate the use of the *Polaris*, the *Poseidon*, or the *Trident* force in that role.

Therefore, it is in this connection a very limited substitute for the purpose of selective strikes or the threat of selective strikes. In order to get accuracy in limited numbers, one would have to continue to rely on the ICBM force until there has been a change in the attitude of the U.S. Government with regard to the expenditure of SLBM forces.

One other thing you mentioned was the cruise missile. I believe in responding to Senator Levin's question, once again, that does not provide one with an immediate response in terms of hard-target-kill capability. It would be 18 hours or thereabouts before cruise missiles arrive on target, and consequently, if one is looking for immediate capability for response that does not solve the problem.

Senator BINGAMAN. Why is it so crucial that we have that immediate response?

Dr. **Schlesinger.** Because if the United States launches its airborne forces and if they are approaching a release point close to the Soviet Union, under those circumstances the Soviet Union may well decide that it will launch prior to the arrival of those bomber-launched weapons, as opposed to the launching of ICBM's, in which the decision time for the Soviet Union would be exceedingly brief.

Therefore, the existence of such a force puts a degree of pressure on Soviet decisionmaking, which adds to the deterrent in a way that the air-launched vehicles do not.

Senator **Bingaman.** Let me just ask you—this demonstrates the newness with which I have come to some of the strategic theorizing. But you earlier explained that the deployment of the MX would primarily be a help in deterring the Soviet Union from an attack on Western Europe.

Could you explain that once again? I am not clear exactly why that is the main advantage of putting out the MX.

Dr. **Schlesinger.** Once again, if we look at the classic case of a bolt from the blue, which unfortunately has dominated much of our strategic analysis and perhaps most notably in the last half decade, the deployment of the MX in Minuteman silos does not add to the survivability of the forces in such a contingency. But the purpose for which the United States deploys its strategic forces is to maintain deterrence, to prevent an outbreak in any place of major importance to the United States.

The United States, of course, has committed its strategic forces to the defense of NATO. Much more likely, although still very, very unlikely as a source of nuclear war, is an escalation from a conflict in Western Europe in which the Soviet Union believes, because of the weakness of the U.S. position, that we would be incapable of coming to the aid of our European allies.

The existence of a counterforce capability, especially a counterforce capability with short flight times, affects the Soviet decisionmakers. They have additional variables that they must consider. And I believe that the Soviets, as prudent leaders, will not be able to see that the strategic forces of the United States can be separated from the defense of Europe if we have major counterforce capabilities embodied in our forces.

Without the MX, they may reach that decision. They may—and I do not think they will, but we want to reduce these probabilities to the absolute minimum—therefore, be more tempted to move against Western Europe than would otherwise be the case.

It does not, I repeat, add significantly to the surviving warheads in the event of deployment in Minuteman missile holes, but it does augment the pressures on Soviet decisionmakers if they were to contemplate a move against Western Europe.

IMPACT OF PERSHING II IN EUROPE

Senator **Bingaman.** If I have just another moment, what would be your view as to the impact that the placement of the Pershings in Europe would be having on Soviet leadership with regard to a possible attack on Western Europe?

Dr. SCHLESINGER. Once again, I think that the development of Pershing II's adds to the uncertainties that the Soviet Union must consider and therefore serves somewhat to add to our deterrent posture overall. The Pershing II that will be deployed in relatively small numbers as a replacement for Pershing I does not add immensely to the deterrent effect of our overall posture.

Senator BINGAMAN. That is all I have, Mr. Chairman. Thank you.

Chairman TOWER. Senator Wilson?

Senator WILSON. Thank you, Mr. Chairman.

General SCOWCROFT. At the bottom of page 9 of under "Ballistic Missile Defense." Commission's report states: "However applications of current technology offer no real promise of being able to defend the United States against massive nuclear attacks in this century."

Was that statement made by the panel after a thorough evaluation of both the High Frontier and laser and particle beam proposals?

General SCOWCROFT. Yes, it was, Senator. And I would point out that in the President's speech itself, he spoke of the next century. So we are dealing with a time frame different from that in the President's speech.

Senator WILSON. In that context, how does that conclusion relate to the Commission's overall recommendation with respect to MX and, when available, the Midgetman?

General SCOWCROFT. I think that our recommendations on ballistic missile defense are that it does have potential promise, that it warrants a vigorous research and development program, and that it may in the future add substantially to survivability of our ICBM forces, but that unless one goes to a basing mode that gives ballistic missile defense additional leverage, like the MPS or like the CSB basing modes, then it does not warrant deployment at this time in terms of its cost and relative effectiveness.

Senator WILSON. Then what you are really saying and I think this is clear from the rest of the report, is that no one on this Commission or anywhere else can say that the kind of basing mode chosen for the MX in your recommendation is one that removes the problems of vulnerability.

You are admitting vulnerability, but saying that we must have the weapon in order to have a balance. That opinion is predicated on the evidence and the inferences arising from that evidence: that we can have at least a deterrent in that they will not be able to remove both the bomber force and hit the silos at the same time.

General SCOWCROFT. That is correct, Senator. Now, we do recommend a strong research and development program in silo hardening. There are some interesting concepts in silo hardening and we would recommend, if any of those prove out and at a reasonable cost can be applied, hardening the silos, which would enhance survivability.

SUBMARINE MISSILE LAUNCH-CAPABILITY

Senator WILSON. All right. Let's shift to the third leg of the triad, our submarine-launched capability. Is it true that notwithstanding a very diligent Soviet effort, we do not anticipate that the Soviets will achieve advances that will threaten the superiority we now enjoy in this capacity before the nineties, at which time we expect to have the Midgetman developed and deployable?

General SCOWCROFT. That is our anticipation, Senator. ASW is a very secretive program on both sides. We do not know exactly what the Soviets are doing, but based on what we do know about our own research and what we can tell about theirs, we believe that that is a safe assumption and further, that a breakthrough may not, in any case, be the right words. The degradation may be gradual in any case.

But yes, I think the answer is. we do not foresee that at any time that we can calculate now.

Senator WILSON. Would not our failure to deploy the MX provide the Soviets with a substantial incentive to redouble their efforts in that regard, to try to gain whatever breakthrough or whatever advance would be necessary? In other words, would it allow them to concentrate on that leg of the Triad?

General SCOWCROFT. I think that is a reasonable assumption. One of the essential purposes of the Triad is to permit each leg to hedge against breakthroughs in the others. Right now we are very fortunate that we do have survivable submarines at a time when our ICBM forces are becoming increasingly vulnerable.

At an earlier stage we had some bomber vulnerabilities, and there is no reason to expect that that might not develop in the future. So that if the Soviets only had to worry about one program there is no question that they could afford to redouble their efforts.

Senator WILSON. Secretary Schlesinger?

Dr. SCHLESINGER. I think that General Scowcroft wound up on the right point. It is not only the hedge, but it is the forcing of the dispersion of resources. For those many people who would move to a sea-based force, it is an enticement to the Soviet Union now to concentrate on ASW, and by moving in several directions at once we force a dispersion of their resources.

Senator WILSON. This is really an extension of the other question. Did the Commission look at any evidence on what it is costing the Soviets to maintain their triad and to continue on the modernization efforts that they are making?

General SCOWCROFT. Yes, we did in a general sense. We did not examine or go into detail in the esoteric debate about costing of Soviet forces. But we have reviewed carefully the vigor of their programs and we found in all areas that they are modernizing, and in some of which we are not, like air defense.

They are pushing forward, many times with multiplicities of programs, and certainly in terms of numbers, both in ICBM's and SLBM's, their progress is much more rapid than ours.

SOVIET SILO HARDENING

Senator WILSON. Was there evidence—I doubt that it is classified—available to the Commission that indicated a direction that the Soviets are taking in terms of dispersal or hardening as it relates to making their ICBM's less vulnerable?

General SCOWCROFT. Yes. They have done a great deal of work in silo hardening. As a matter of fact, we have profited some in our hardening ideas from what we have observed the Soviets doing. They have silo hardening. Hardening is a very difficult thing to measure precisely, but to the extent that we can, their silos we feel are substantially harder than anything we have.

In terms of dispersal or mobility, they did complete development of the SS-16, which was designed as a mobile missile. They gave it up in SALT II ostensibly, although there is some evidence that maybe it did not work out well as a system. And there is possibly some indication that one of the new tests that they had could be designed for a missile with some mobility.

And of course, on the SS-20 they have gone the direction of mobility. That is not an ICBM technically.

Dr. SCHLESINGER. Senator, with all of the arguments that may take place with regard to dollar equivalency of Soviet efforts, it is evident that the Soviets are vastly exceeding our own efforts in terms of strategic forces. Most notably in strategic defense, but even in the strategic offense area, they are outspending us on a dollar equivalent basis, at least by two to one.

Senator WILSON. Secretary Schlesinger, is it not also true that, if you were to project the level of expenditures as a function of their total gross national product over the last decade, the Soviets have been escalating substantially their expenditures?

Dr. SCHLESINGER. They have been increasing their share of the GNP. Real growth of Soviet expenditures runs at least 3 percent, perhaps as much as 5 percent. On an annualized basis, steady over the years, whether or not we had the spirit of Camp David or the spirit of détente, that growth of Soviet outlays has continued.

Senator WILSON. That in itself gives rise to certain inferences. Let me ask this, and this really goes beyond the province of the Commission. I suppose, in terms of providing incentives for arms reduction, in addition to providing the incentive that this additional leg of the triad or that this improvement of the land-based leg of the triad provides, has there been any analysis of costs to the Soviets?

Has there been any evidence of a desire on their part to minimize the costs that would suggest that a particular approach to arms reduction might be promising?

Dr. SCHLESINGER. Senator, that is once again a complex historical problem. If one looks at the Khrushchev era, there was a clear desire on the part of the Soviet leadership to reduce the overall costs of the military establishment, and as you will recall that ultimately got Mr. Khrushchev into some difficulties with various components of the Soviet bureaucracy.

SOVIET FORCE STRUCTURE

The Brezhnev leadership over the years had made the determination to correct the deficiencies in the Soviet force structure that were most evident at the time of the Cuban missile crisis. They plowed ahead. As I say, their growth rate continued steadily throughout that period without any apparent interest in reducing the weight, the burden of that program, on the Soviet economy.

We have new Soviet leadership. As yet there is some degree of uncertainty about Mr. Andropov's views. Nonetheless, to the extent that we are able to piece it together, the alliance that permitted him to assume the supreme leadership of the Soviet Union included the military establishment, which I suspect will not be eager to see any sharp diminution in the resources available.

We may hope for a change, but we cannot count on a change.

Senator **Wilson**. Thank you.

Chairman **Tower**. Mr. Chairman, there seems to be some confusion in the press and in comments that have been ascribed to various members of the panel about the status of MX following the transition to the small ICBM. I wonder if you would comment and other members of your panel would comment on the role that you envision for MX, assuming that the recommendations for de-MIRV'ing and arms control agreements utilizing this principle to effect strategic stability are indeed finally realized.

General **Scowcroft**. Yes, Mr. Chairman. I think it would be highly dependent on the status of United States-Soviet negotiations, on an arms control environment, and on strategic forces in general as to what would happen to the MX at that particular time. Should the Soviets not only permit us, but agree with us in our emphasis on stability and be willing to go in the same direction, then we can easily see reductions in MIRV'd forces on both sides.

But I think to be more specific than that would be difficult, because as I said before, one of the merits, we think, of our package is the flexibility it gives us to respond in whatever direction we need to in order to deal adequately with the Soviets. We would hope that by that time—after all, we are talking at least a decade—that we will have brought the Soviets to see the merits of strategic stability and of a force posture on each side that does not depend on escalating arms expenditures.

Assuming we can do that, then we would think there is nothing sacrosanct about any particular system in terms of reductions and overall weight of our recommendation would be to reduce MIRV'd forces.

Dr. **Schlesinger**. Mr. Chairman, when one considers the time involved in a major adjustment of the Soviet forces and the unlikelihood that they will feel a great imperative to do so, I think that even under the best of circumstances it would be 15 or 20 years of the life of the MX missile before it would be withdrawn from the force, and once again I stress under the best of circumstances in terms of a change in Soviet attitudes.

Chairman **Tower**. Dr. Deutch?

Dr. **Deutch**. I have nothing to add.

DEPLOYMENT OF THE D–5

Chairman **Tower**. There seems to be a logical inconsistency between the recommendation of the panel to proceed with the Trident D–5 missile program while undertaking to move toward reducing the value and importance of individual strategic targets.

Would you explain how you view a large throw weight multiple RV weapon, with the hard target kill capability expected of the D–5 based in large numbers among relatively few Trident submarines, to be compatible with your most prominent recommendation, that is the adoption of an arms control stance leading to the de-MIRV'ing of strategic ballistic missile forces?

Given that this is the direction in which you believe the United States should move, is it inappropriate for the Congress to authorize some $1.4 billion in fiscal year 1984 for further development of the D-5?

General SCOWCROFT. Yes, Mr. Chairman, and we feel that the same principle that applies in terms of stability to ICBM force applies to the SLBM force. In line with that, we do recommend examination of the possibility of a follow-on to the Trident which would be smaller to disperse the force.

You have two kinds of concentrations in the SLBM force. One is the MIRV'ing as in the ICBM force and the other is the very large submarines with a great number of warheads on each one. We feel that for the SLBM force, we should start with the submarine rather than the missile itself.

Dr. SCHLESINGER. Mr. Chairman, some time will elapse before there is any deployment of the D-5. If there were major Soviet moves in the next 5 years which suggested that they were prepared to move toward a force structure with less counterforce capability, I am sure that the U.S. Government under those circumstances would be responsive. However, at this juncture one cannot count on such a move on the part of the Soviet Union and, consequently, one should proceed, it seems to me, with the D-5.

Chairman TOWER. Do you have any comment, Dr. Deutch?

Dr. DEUTCH. Mr. Chairman, I believe there are several members of the Commission, as indicated in one of its recommendations, that would have favored a smaller submarine carrying fewer missiles per boat because of the principles you have correctly identified about reducing the value of the targets.

On the other hand, we all recognize that the plate is full and there are problems in trying to do everything at once and going to the ideal. Accordingly, I think that the Commission was judicious in pointing out that the Trident program, D-5 and the boats, is probably the best that we have available. It is the most economic thing for the Nation to do with regard to the sea-based deterrent for the foreseeable future.

While an ideal is a smaller boat with fewer missiles per boat, which I believe is appropriately in the Commission's report, left in the research stage as a follow-on to the Trident program.

Chairman TOWER. Thank you.

Gentlemen, we will now go to the third round, which I propose to limit to 5 minutes each, and then we will adjourn the hearing. So we will start with Senator Stennis.

Senator STENNIS. I have nothing further now, Mr. Chairman. Thank you.

Chairman TOWER. Senator Warner?

Senator WARNER. Thank you, Mr. Chairman.

VERIFYING THE NEW MIDGETMAN

In your report there was very little mentioned of the question of verifying the new Midgetman. Could you amplify that a little bit at this point in time? We were very much impressed with its potential as a new direction in arms control, and then of course there is the issue of verification.

General **Scowcroft**. Verification would pose problems for us with the small one, and that is not the reason we believe we should move with deliberation. Warhead verification as such in terms of MIRVed versus single warhead is not a substantial problem. We believe that the kinds of counting rules and so on that we have now and testing rules are adequate to determine the warhead.

Senator **Warner**. For the launcher?

General **Scowcroft**. Warheads per launcher, yes.

Especially with a mobile, small missile, there are verification problems in terms of concealment and so on. We are not sure that they are different in kind than the ones that are facing us now with the cruise missiles which have to be resolved.

As we look back to 10 years ago when we were wrestling with the problems in SALT II and the limits of our conceived ability for verification, we have come a long way in 10 years. We believe in another 10 years that we can be sufficiently innovative to solve the problem of verification.

Senator **Warner**. Secretary Schlesinger?

Dr. **Schlesinger**. Senator Warner, I think that it is far easier when one has a small throwweight of the sort that is being contemplated with perhaps payload of 1,100 or 1,200 pounds, to know what is the loading of that missile. We would have greater difficulty unquestionably under those circumstances in counting missiles.

Therefore, I think that we must recognize that the opportunities to cheat with mobiles are somewhat greater than they are with fixed sites. Nonetheless, if they are cheating with very small throwweight missiles the benefits to them of that cheating would be reduced and would not pose a major threat to the overall stability of the strategic forces.

Senator **Warner**. One last question, I think it has been answered in terms of the D–5. There was an interesting question raised by the chairman, and I presume the same reasoning with respect to—well, I don't know, perhaps you should answer the question.

In the recommendation for the smaller SLBM's, what warhead would be comparable?

General **Scowcroft**. We really didn't get into a smaller SLBM, Senator. The D–5 is a new program, and as I said we put our emphasis on reducing the size of the submarine as a first step rather than the missile itself.

Senator **Warner**. So you didn't think through whether you would do a single warhead missile in the new submarine?

General **Scowcroft**. No. There are additional problems involved with the submarines in that they are an expensive deployment system. The ICBM is the only system that once you get it deployed, especially if it is in fixed sites, it is very, very cheap. An SLBM is not a cheap vehicle, and one has to look at the cost problems if one were to go to single warheads in submarines.

Senator **Warner**. Dr. Schlesinger, I would be interested in your views, since we worked together on the Trident.

Dr. **Schlesinger**. Once again, Senator, I think we must recognize that a smaller submarine may not be able to carry the D–5.

Senator **Warner**. I was not suggesting that. It would probably have to be a whole new missile.

Dr. **Schlesinger.** That is right. We might have an improved C-4 for a small submarine. The purpose of going to the very large Trident submarine was to provide a large hole for something like the D-5, and backing off means a smaller vehicle.

Once again, if the Soviet Union shows some responsiveness with regard to the desirability of mutual stability and reduced counterforce capabilities on both sides, we should be prepared to make those additional expenses.

Senator **Warner.** Dr. Schlesinger, I want to say that I for one appreciate your participation in this.

Chairman **Tower.** I might note that the British have opted for the D-5 as a replacement for their Chevelene, and I think they anticipate using a smaller boat and fewer tubes, probably the same missile we will deploy on the Trident.

Dr. **Schlesinger.** I think they had better start consulting the naval architects before they reach the conclusion that that is feasible.

Chairman **Tower.** I am sure they are consulting their own.

Senator Nunn?

Senator **Nunn.** Let me ask General Scowcroft a question.

BALLISTIC MISSILE DEFENSE

On ballistic-missile defense, is it fair to interpret your point as coming to the conclusion that we do not have an available ballistic-missile defense now that would cure the vulnerability, or substantially reduce the vulnerability problem, that is worthy of pursuing on a short-time basis?

General **Scowcroft.** Yes. In the deployment which we are recommending, we feel that the state of ABM at the present time is such that, unless your deployment mode provides significant additional leverage as could be found in MPS, for example, or to some extent in CSB, perhaps, with reasonable cost limits an ABM system is not at the state now that we would recommend deployment.

Senator **Nunn.** Did you all hear from Gen. Dan Graham on this?

General **Scowcroft.** Yes, Senator, we did.

Senator **Nunn.** Is it then accurate that you don't agree with General Graham's recommendation, it has been changed somewhat, but it has been labeled as "High Frontier"?

General **Scowcroft.** Well, that is a complicated question. There is great question as to whether or not that could be done, first of all, within the limits of an ABM Treaty. There is some ambiguity there, but I think, by and large, we felt it could not be. We did not feel that it warranted any moves which at this time would cut across that treaty.

Senator **Nunn.** Was that the driving question, assuming that one was of a mind to disregard that treaty, which I guess some are and I am not among them at this point in time, but if one were, would you then have the same recommendation, or did you go into it with that assumption and not look beyond that. In other words, is it feasible now, if we didn't have an ABM Treaty?

General **Scowcroft.** I think there was a certain amount of skepticism, Senator.

Senator **Nunn.** Secretary Schlesinger, would you comment on that?

Dr. SCHLESINGER. Senator, the ABM Treaty of 1972 is a major element in the stabilization of both the arms balance and the relations between the two super powers. It would be a very substantial step for us to renounce that treaty, and it would involve very significant political cost to the United States. Therefore, one should not move to withdraw from the treaty until such time as one is assured that the projects that one has in mind will, with a high degree of confidence, bring a successful improvement in the position of the United States and its allies. At this moment, it remains largely in the realm of speculation and, therefore, it is premature to consider.

Senator NUNN. While the High Frontier advocates have said that we have off-the-shelf type near-term technical capability to provide a successful ballistic missile defense, am I accurate in saying that the Commission disagrees with that, if I have stated their views, and I am not sure I have precisely?

Chairman TOWER. May I reiterate what you said, Senator, and that is that the ABM Treaty aside, just looking at it from the efficacy of a defensive system that can be acquired in a reasonable time at reasonable cost.

Dr. DEUTCH. Senator Nunn, I believe that the overwhelming opinion on the committee is that, irrespective of the ABM Treaty, there is not technology available now to provide even hard point ABM defense with confidence. Nevertheless the Commission, I think, endorsed very strongly in its report the need for ABM R&D.

In terms of High Frontier, I think there is one aspect of it that is particularly attractive as an R&D venture and that is that it is based, as I understand it, on completely nonnuclear defense, which is an important element. It is a very important objective for a comprehensive ABM R&D program to possess.

So I would summarize by saying that, irrespective of an ABM Treaty, this panel does not believe that the technology is there and that further work is certainly called for, including the kinds of nonnuclear ABM defense which are called for in High Frontier.

Dr. SCHLESINGER. To suggest, Senator, an off-the-shelf item is in excess of hope.

Senator NUNN. Very judicious.

Could you comment also as to whether the Commission considered the President's advocacy of the laser weapons in the future, or was that beyond the scope of your Commission?

General SCOWCROFT. Senator, we really felt that fundamentally it was in a time frame that was beyond what we focused on.

Senator NUNN. The Chairman said that you had already commented on that, so that is fine.

My time is up. Mr. Chairman, I missed my first round, so after the others get through, I may have a couple of other questions if you have the patience, it won't be many.

Chairman TOWER. Senator Exon?

Senator EXON. Thank you, Mr. Chairman.

Chairman TOWER. I am sorry, Senator Wilson was the next up.

Senator WILSON. Thank you, Mr. Chairman.

Chairman TOWER. You are sitting too far down the end of the table.

Senator **Wilson**. That is not my fault.

On page 12 of the report, the Commission makes the statement that Soviet antiballistic missile activities dictate "continued attention to having sufficient throw weight for adequate numbers of warheads and of decoys and other penetration aids." How does that statement square with the Commission's central tenet that we must move in a direction of a single reentry vehicle delivery system?

Dr. **Deutch**. I believe, Senator, that the point that you make is precisely one of the reasons that the Commission wants not to close options for anything in the future, having an MX production line open means that, if we do not get a favorable arms control agreement.

Moreover, as the underlying point of your question says, if the Soviets were to break out with ABM deployment, it would be important for the United States to have recourse to a weapon system which did provide the necessary throw weight. The mere fact that it has such a weapon production line in operation will deter the Soviets from undertaking a breakout in ABM.

Senator **Wilson**. Is it your view that the production and deployment of MX through the 1990's is going to produce a far greater stability than would occur without it?

General **Scowcroft**. We think it has the potential. That is, of course, reading Soviet mind in a way. We believe that they are amenable to arms control and to agreements that make sense for both sides, but only if there is no easier alternative for them, or only if it can be demonstrated to them that they cannot maintain an advantage without the necessity to negotiate.

Dr. **Schlesinger**. Once again, Senator Wilson, we must bear in mind that the bipolar examples that we frequently use in examinations of missile exchanges are not only relevant to the world in which we live. We are attempting to do more when we talk about overall stability than deter attacks on the North American Continent.

The augmentation of our counterforce capabilities, the beginning of the matching of the Soviet counterforce capabilities, will reduce whatever temptations the Soviets have to move against Europe or to bring undue pressure against Europe, and that is conducive to overall stability, and overall deterrence is enhanced.

Senator **Wilson**. I take it that that is effectively what you mean on page 6 of the Commission's report in the statement that effective deterrence to any Soviet temptation to threaten or launch a massive conventional or limited nuclear war requires our having a comparable ability to destroy Soviet military targets, hardened or otherwise.

Dr. **Deutch**. Yes, sir.

General **Scowcroft**. Yes.

Senator **Wilson**. I think that this is probably my 5 minutes, Mr. Chairman.

Chairman **Tower**. Senator Exon?

Senator **Exon**. Thank you, Mr. Chairman.

Dr. Schlesinger, you said earlier that four Presidents now have approved the MX. You did not mean to imply by that that the three previous Presidents had seriously considered deploying the MX in vulnerable Minuteman silos, did you?

Dr. **Schlesinger.** That was not my intention, but that indeed was the reality, I believe, for the Nixon administration and for the Ford administration.

Midpoint in the Carter administration there began to be, I think, an undue emphasis on the question of silo vulnerability taken in isolation, and that the other purposes for which the MX was being deployed came to be comparatively ignored. It is that preoccupation with an issue not susceptible to immediate solution, and possibly not susceptible to any solution, that has led, I think, to the failure to recognize the role that the MX plays in the overall deterrence.

For the first two Presidents of the four, indeed, the issue of silo vulnerability was not a salient issue and, therefore, at the outset we were prepared to deploy the missile in these holes.

Remember that the initial objective of the MX was to begin to match that Soviet throw weight which we initially saw in the SS–9, and then after 1972 with that explosion of research and development activity enhanced by the deployment of the SS–17, SS–18, and SS–19.

We would prefer to have lesser vulnerability of silos, but silo invulnerability is not to be obtained in this world. There is no invulnerable weapon system. The SLBM force is not invulnerable even under circumstances in which the Soviets have no ASW capabilities because 40 percent of the SLBM force can be picked up cheaply by attacking the ports since only 60 percent of the force is at sea at any one time. There is no such thing as invulnerability.

One of the purposes for which the Commission is advocating energetic work by the U.S. Government on further silo hardening would be to raise the cost in terms of SS–18 equivalence to the Soviet Union in contemplating an attack. If one could assure that a major part of the Soviet force would have to be expended in order to eliminate our ICBMs, much of the purpose of the hardening would have been attained even though we would still not have silo invulnerability.

SOVIET DEVELOPMENTS IN ACCURACY

General **Scowcroft.** Senator, if I could just add a point. I think we have to look at the whole course of this also in terms of Soviet developments in accuracy. The United States did not push its technological capability for greater accuracy as hard as we could have back in the 1960's and early 1970's, feeling that if we would hold back perhaps both sides could avoid the development of that hard-target kill capability in which we were substantially ahead, technologically, at the time.

What really happened is that the Soviets, as soon as they got the technical capability, they deployed it and it was, I believe, midpoint in the Carter administration that we had test results which demonstrated that the Soviets had achieved that accuracy far earlier than we had anticipated. Indeed, we were hoping that they would not even go for it. So I have to add that to this history.

Senator **Exon.** Dr. Schlesinger, I certainly agree that sometimes we tend to become isolated and mesmerized with one particular system.

You indicated earlier that you were maybe the father of the MX. As the father of the MX, did you envision that as simply a bigger missile that would go into a Minuteman silo, or did not envision it as—I have been led to believe from back several years that it would have to be some kind of a multiple protective shelter system so that it would not be as vulnerable. What were your ideas when you came up with it.

Dr. SCHLESINGER. In the first place, Senator, let me emphasize that we prefer by far to reduce the vulnerability of any such system, but the original motivation for the MX incorporated that MX going into the Minuteman holes, and the missile was sized to go into Minuteman holes.

It was designed primarily to persuade the Soviet Union that development of counterforce on both sides was disadvantageous to both sides. We were prepared, at the time that we originally suggested the MX, to discontinue the MX if the Soviets would, after 1972 as they moved away from the SS–9's, SS–11's, and SS–13's, not to add to their throwweight, not to add to their counterforce capabilities which were minimal at the time.

Secretary McNamara, when he originally authorized the MIRVing of the force, fractionated the throwweight in small payload missiles in order not to raise a threat in the minds of the Soviets of counterforce. MIRVing was initially intended to penetrate a Soviet ABM system that at the time seemed likely to be deployed.

We had hoped that this would lead to a response on the part of the Soviet Union. Instead after 1972 instead of reducing the throwweight in their force as they proceeded to MIRV it, they expanded the throwweight, and it was this that led to growing concern about the silo vulnerability. But, as I suggest, it is concern that focuses only a single set of assumptions about a scenario in which the Soviets strike from the blue.

Senator EXON. Mr. Chairman, my time is up. I have been here since 10 o'clock this morning, so can I have 2 more minutes?

Chairman TOWER. Go right ahead.

May I just raise a question, if I may. It is my recollection that the first time that we on this committee saw a recommendation of a deceptive basing mode for the MX was in the last 5-year defense plan recommended by the outgoing Ford administration that was at that time, January, I believe, of 1977, a lameduck administration.

Am I correct in that historically?

General SCOWCROFT. I believe so. I believe at that time it was a buried trench which was the first proposal for survivable basing.

Dr. SCHLESINGER. Senator, I might say that when I announced the MX back there in 1974, 1973, whatever date it was, I said that it was designed to induce the Soviets to reduce throwweight as they proceeded to MIRV the force. It was originally intended to go into Minuteman holes, but if the Soviets proceeded with the development of major counterforce capabilities, that we would ultimately have to consider another basing mode.

Senator EXON. Let me ask you this question. Since you were the first one active behind the development of the MX, I suspect the statement that I made this morning that was not universally accepted is more accurate than ever, and that was that the members of the Commission and the senior counselors to that Commission for the most part very likely had a predisposition to approve the MX in some basing mode at the time they were appointed to the Commission.

Is that a correct assumption on my part, or am I wrong?

Dr. SCHLESINGER. I would say that the members of the Commission represented what has been, over the course of two decades, going on three decades, the mainstream of strategic thinking. To the extent that there is a mainstream and a consensus within it, you may point to a predisposition.

But I think that the fact that it represents this mainstream and consensus is more credit to the Commission than discredit.

DISMANTLING OF TITAN MISSILES

Senator EXON. One last question. Talking about throwweight, you are familiar with the fact that at this time we are dismantling at the tune of about one per month our Titan missiles, with warheads of about 9 megatons each and which together represent about a third of our total land-based management.

I don't know whether the Commission discussed this or not. Maybe just a quick "yes" or "no" from each member of the panel. Do you agree with the present decommissioning of the Titans in view of the fact that we are getting nothing in return?

Dr. SCHLESINGER. I was reluctant to see that occur, Senator.

General SCOWCROFT. I was reluctant to see it occur.

Dr. DEUTCH. I agree with the decision Senator.

Senator EXON. You agree with what?

Dr. DEUTCH. I agree with the decision to decommission Titans.

Senator EXON. Thank you. Thank you, Mr. Chairman.

General SCOWCROFT. We are not unanimous on everything.

Senator EXON. We should do a better job of selecting the Commission members.

Chairman TOWER. Mr. Levin, 5 minutes.

Senator LEVIN. Thank you, Mr. Chairman.

HARD KILL CAPABILITY

I am of course intrigued by what I call this new emphasis on hard-target kill capability. As long as I have been around here, the principal purpose given for deploying MX is to close the window of vulnerability. For the last 4 years—I know you go back before that, and maybe there was some original purpose—but MX has been sold to the American public by this administration and the last administration, to close a window of vulnerability.

Everybody is feeling vulnerable because their Minutemen can theoretically be struck by 2,000 nuclear warheads perfectly timed by the Soviet Union and all we would have is 31 subs with thousands of missile warheads and thousands of air-launched missiles to respond.

But I want to read——

Dr. SCHLESINGER. Much of that, Senator, was hot air. I endorse the view that a new missile does nothing, the new missile by itelf, does nothing to close the window of vulnerability.

Senator LEVIN. Well, I am glad that you concede that. That hot air, as you put it, is what has been motivating this direction for the last few years, but I am not going to go into that anymore.

Dr. SCHLESINGER. That is not a concession; that is a statement.

Senator LEVIN. I think it is both.

Now we are going to hear about hard-target kill capability and you are going to emphasize, and you have today, the importance of closing the disparity in hard-target kill capability.

You addressed the Committee on Foreign Relations not 2 months ago and took quite a different approach on hard-target kill capability. I want to read you some of the statements you made at that point and ask you if it is not a shift in tone, or whether you still subscribe to what I am going to read to you.

You said that "While we should not overlook this deficiency"—referring to hard-target kill capability—"neither should we overstate its importance. It is offset by certain other aspects of our force."

Do you agree with that?

Dr. SCHLESINGER. I certainly agree with those sentences, but I want to give the overall context when you finish reading.

Senator LEVIN. I want to give you an opportunity to respond. Then you say, "While these, our submarine forces, are considerably superior to those of the Soviet Union"—somewhat different in emphasis from what you have said today, by the way, and I will let the record reflect, or just the casual viewer or witness, reflect on the tone you have taken here today—

> We also possess continuing advantages in sensor technology, automatic data processing and the capacity to design and execute attack. We possess a major edge in cruise missile technology.
>
> The point is not that we should disregard the Soviet advantages in hard target kill capability, but that properly exploited, these other assets can, to a considerable extent, be utilized to right the balance.

Do you agree with that so far? Do you still stick to those words?

Dr. SCHLESINGER. Yes, indeed.

Senator LEVIN [reading].

> We should invest both imagination and effort in exploiting these compensatory advantages. We should not brood about or overstate the recognizable deficiency in hard target kill capability.

Do you still agree that we should not brood about or overstate the recognizable deficiency in hard-target kill capability?

Dr. SCHLESINGER. Exactly.

Senator LEVIN [reading].

> Above all, we should not suggest that the deficiency in this single dimension implies inferiority.

Do you agree with that?

Dr. SCHLESINGER. That was my statement then, yes.

Senator LEVIN. I am glad to hear that. I will read one more paragraph because your tone is very, very different here. When you emphasize, as you have today, the shortfall, the disparity in hard-target kill capability, and you talk about how important it is that it be prompt, as well as that we close that shortfall, it is significantly different from the tone in these remarks. I will read the last paragraph.

> If the Alliance today suffers from overall military weakness in comparison to the Soviet Union, one should not assume that further investment in strategic nuclear forces will correct that deficiency. It is more important directly to address the true deficiency, notably weaknesses in the general purpose forces around the periphery of the Soviet Union.

Would you still agree with those words?

Dr. SCHLESINGER. Yes, indeed.

Senator LEVIN. Now as far as the hard-target kill capability——

Dr. SCHLESINGER. Mr. Chairman, I wonder whether the complete statement might be inserted into the record.

Senator LEVIN. I would very much like to insert the whole statement. I think it is significantly different in tone, on balance, than what we have heard today from Dr. Schlesinger.

Chairman TOWER. At the request of Dr. Schlesinger, the entire statement will be inserted into the record.

[The prepared statement of James R. Schlesinger follows:]

PREPARED STATEMENT OF JAMES R. SCHLESINGER

Mr. Chairman and members of the committee: I am honored by Chairman Percy's invitation to appear before this Committee to examine the status of the United States-Soviet strategic nuclear balance.

In a brief statement it is impossible to touch upon the many facts and the many implications of so complex a subject. Therefore, I only have time to touch on several of the highlights.

At the outset I should like to provide a few cautionary notes, bearing on the realities and the perceptions regarding strategic arms.

1. It is important for us not to indulge in false nostalgia—for the strategic balance which existed at the time of the Cuban missile crisis. While clearly there is great comfort for us and those whom we seek to protect in the United States possessing overwhelming strategic superiority, it was inevitable that that superiority disappear. There is nothing that the United States could have done to prevent an erosion of the strategic nuclear edge that it once possessed—once the Soviet Union had the requisite technology and the resolve to build up her own strategic nuclear forces.

False nostalgia about this earlier era is in itself dangerous in that it suggests that through direct measures we could once again attain that earlier degree of security; that would be pursuit of a will-o'-the-wisp. Only a major technological breakthrough offers even the prospect of such an alteration. Such a breakthrough is more than a decade away at best and, in the interim, we shall have to get through a lengthy period without such miraculous relief.

2. It is important at the outset to acknowledge the difficulties in comparing widely disparate, closely matched national strategic capabilities or in projecting outcomes in hypothetical nuclear exchanges. The precision that one encounters in paper studies of nuclear exchanges reflects the precision of the assumptions rather than any experience based upon approximation-to-real-life test data. Specialists, in their enthusiasm, tend to forget how conjectural the entire process remains. To a greater or lesser degree we are employing speculation regarding delivery system reliability and accuracy, reliability of the nuclear weapons, and the impact of weapons effects. This introduces vastly greater-than-normal uncertainties into such paper analyses. We must be careful, therefore, not to ignore these dominating uncertainties and thereby to ascribe high probability to the outcomes projected in these paper studies. To do so would be to fall into the error that Alfred North Whitehead once described as the "fallacy of misplaced concreteness."

Happily, no one has ever fought a nuclear war. Not only have ICBMs never been tested in flying operational trajectories against operational targets, they have not been tested flying north and this may or may not introduce certain areas of bias in the estimates of accuracies. Nuclear weapons have never flown 6,500 miles through space with the accompanying acceleration and deceleration and therefore we have no real test data regarding failure rates. Consequently, neither the Soviet Union nor ourselves have appropriate test data to buttress the estimates regularly made about either nation's strategic forces. For leaders on either side that may be enticed into considering the utility of a major nuclear strike. I would hope there would always be somebody there under such hypothetical circumstances to remind them of these realities.

3. For these reasons, perhaps the dominant element in measuring nuclear forces against each other is the unknown and immeasurable element of the probability

of major technical failure. It would tend to dominate any outcome. Given the spotty Soviet history in dealing with modern technologies, one would hypothesize that this must be a constant worry of the Soviet leaders—regardless of what others abroad may say about the supposed superiority of their forces. We ourselves know a great deal more about helicopter operations and maintenance than we do about actual missile operations. Yet, if we recall the abortive rescue operation in Iran in 1980, even we—with a far more impressive history of technical success—should bear in mind this salient element.

I stress this matter because there has been some tendency of late to overdramatize speculations about hypothetical exchanges that serve to dramatize certain deficiencies in the U.S. strategic forces, which are real, but which are also compensated to some extent by certain deficiencies in the Soviet force posture.

Let me turn, then, to certain asymmetries in the postures of the United States and the Soviet Union. While the United States presently possesses an edge in the number of RVs and bombs, it is probably advisable not to draw too much comfort from that simple comparison. First, that numerical edge is in the process of disappearing. Second, a far greater proportion of Soviet RVs are higher yield weapons of greater accuracy deployed on Soviet ICBMs.

More important, we must disregard a great deal of widespread though superficial commentary regarding "overkill"—that we and the Soviets have the capacity to kill each other ten times over, etc. (as if that were a meritorious military objective!). Such commentary seems to imply that any weapon is reliably deliverable to target, and ignores possible counterforce strikes, defense penetration, down-time, and reliability. Moreover, in all such simple comparisons it is sometimes overlooked that there are two categories of targets. Class A consists of all of the soft targets, both military and civilian, including notably the urban industrial structure. Class B targets include those that have been hardened—most notably silos and command/control facilities. The United States has and will continue to have, in my judgment, sufficient surviving and deliverable weapons to destroy the urban-industrial base of the Soviet Union—even after absorbing a Soviet strike. Since mutual destruction of the urban-industrial bases of both societies is the top of the escalatory ladder, such a capability is considered the ultimate deterrent. If the present discussions of superiority and inferiority are taken to suggest that the Soviet Union can deny the United States that capability, then the suggestion that the Soviet Union has superiority is invalid.

On the other hand, we must bear in mind the second class of targets—those that have been hardened. Until the Soviet Union constructed silos in large numbers, the United States possessed major counterforce capabilities. With the deployments starting in the late Sixties, the American counterforce capability has steadily waned. Because of the disparity in throwweight existing at the time of the SALT I agreement, and the later marriage of that Soviet throwweight advantage to newly-acquired technologies with the MIRVing of their missile force, the Soviet Union has gradually acquired a hard-target kill capability against American forces which now in all probability substantially exceeds that of the American. The Soviets continue to improve their accuracies, and the combination of yield and accuracy gives to their forces greater estimated lethality against hard targets than we possess (once again putting aside my earlier cautionary note).

We must not ignore the reality (or exaggerate its importance) that, in this one significant dimension of strategic forces, the Soviet Union has acquired a distinct edge. Indeed, for certain technical reasons, this edge was an almost inevitable outcome of the massive disproportion in throwweight existing at the time of the 1972 agreement—a disproportion that we have never corrected. For almost 20 years I have argued that we should never allow the Soviets to obtain a significant edge in terms of hard-target kill capability. Yet Americans, in their complacency have been slow to appreciate the cumulative effect and inevitable consequences of the steady Soviet investment in strategic forces. Thus, today we find ourselves in the position that was readily predictable—a clear force deficiency relative to the Soviets in hard-target-kill capability. That is the price of neglect.

While we should not overlook this deficiency, neither should we overstate its importance. It does not gain say our possession of the ultimate deterrent. Moreover, it is offset by certain other aspects of our forces. While seaborne weapons possess relatively little hard-target-kill capability, we must recall that the majority of U.S. weapons are carried on submarines—and therefore are essentially untargetable at this time. Our submarine forces, moreover, are considerably superior to those of the Soviet Union and the number of RVs carried in their submarines is small relative to their total forces and to our own seaborne forces. We also possess continuing advantages in sensor technology, automatic data processing, and the capacity to design and execute attacks. We possess a major edge in cruise missile technology. The point is not that we should disregard the Soviet advantages and hard-target-kill capability, but that properly exploited, these other assets can, to a considerable extent, be utilized to right the balance.

Moreover, while I believe that we should not have allowed this strategic deficiency to develop, it strikes me as futile and inappropriate to wring our hands about it. We should also acknowledge that over the years immediately ahead the Soviet advantage in hard-target-kill capability will almost certainly increase relative to our own. There is nothing in our defense program that is going to alter this fact over, say, the next half decade. Sometimes the public rhetoric on this issue seems to suggest that strong feelings on our own part may provide an antidote for this Soviet edge. That, perhaps regrettably, is not the case. To offset what will be a continuing and growing Soviet advantage in hard-target kill capability, we shall have to stress other, compensatory advantages.

I believe that we should invest both imagination and effort in exploiting these compensatory advantages. We should not brood about or overstate the recognizable deficiency in hard-target-kill capability. Above all we should not suggest that the deficiency *in this single dimension* implies "inferiority." Because the word inferiority may suggest to others that our deterrent is, indeed, inadequate.

In light of the compensating advantages and the exploitation of those advantages we may still have "rough equivalence," even though, in my judgment, what we defined some years ago as "essential equivalence" has probably disappeared.

Let me close by making three observations:

1. For many years the United States maintained a high-confidence deterrent in which its substantial advantage in nuclear forces compensated for severe limitations in conventional forces. Indeed, we have been and remain overly dependent upon nuclear deterrence. The disappearance of the American edge in nuclear forces does not by itself suggest that our nuclear deterrent has become either inadequate or inferior to that of the Soviet Union. The problem that it creates is that no longer can a significant nuclear advantage compensate for deficiencies in conventional forces. We should recognize that, to the extent that confidence in overall deterrence has waned, it is not the inferiority of the strategic forces so much as the disappearance of their capacity to offset other force deficiencies. If the Alliance today suffers from overall military weakness in comparison to the Soviet Union, one should not assume that further investment in strategic nuclear forces will correct that deficiency. It is more important directly to address the true deficiency—notably weaknesses in the general purpose forces around the periphery of the Soviet Union.

2. In the past twenty years the Soviets have been steadily serious about strategic forces—more so than we Americans. They have made substantial strides—and will make additional strides. Nonetheless, we ought always take computer analyses of nuclear exchanges with a grain of salt. Even more, we should encourage the Soviets to do so. Even were we to continue to insist to the Soviets that their nuclear forces possess a high-confidence counterforce capability and are therefore superior overall, the Soviets would probably not believe it. In a society in which few things work particularly well, and in which everything breaks down, the Soviet political leadership would quite rightly express skepticism, were any of their senior officers to suggest that the Soviet Union now possesses a high-confidence, first-strike capability.

3. In recent years there has been a tendency to blame deficiencies in our strategic posture or adverse trends in the balance on the arms control negotiations, which reflect such weaknesses. Yet, even as we attempt to repair deficiencies in our own forces, we should recognize that arms control provides a modest, yet reasonable, hope for limiting the momentum behind the Soviet program and for improving arms stability. I believe that it is not only a moral but a political necessity that the United States, especially in light of public opinion in the Western democracies, be seen as continuously ready to negotiate arms control agreements. In the circumstances of today, given the momentum of the Soviet program and the absence of near-term offsets for the United States, it is also strategically desirable.

Senator **Levin**. Let's talk about hard-target-kill capability. We have 900 Mark 12–A's deployed now. We have 1,100 gravity bombs on bombers deployed now. We will have 3,000 ALCM's, both first and second generation by 1988–89. I understand the IOC for MX will be 1986 or 1987. And we have 200 Trident II RV's coming on in 1989.

So we do have, I think you will agree, Dr. Schlesinger and others, that we have hard-target-kill capability, either onboard now or coming onboard soon. We have some. Would you agree with that?

Dr. **Schlesinger**. We have some.

Senator **Levin**. Then the question is, Is it prompt? That gets us to Dr. Brown's statement about the difference in response time, and I am not going to quote Dr. Brown again, but he has appeared before this committee many times saying the difference between 30 minutes and 10 hours is not particularly significant in the kind of nuclear war scenarios that you fellows are designing for.

But I want to get to your prompt argument, Jim, if I can for a moment. You talked about 18 hours. We get something from the Department of the Air Force which shows a much quicker response than 18 hours. And I am wondering if that 18-hour figure isn't exaggerated. This chart shows that the submarine-launched SLBM's take 2 to 4 hours and the ALCM's and bombs, the bomber-launched weapons, take 6 to 10 hours.

Isn't that very different than your 18-hour statement today?

Dr. **Schlesinger**. It depends whether the bombers are approaching the release point or not.

Senator **Levin**. Well, could it be as short as 2 hours?

Dr. **Schlesinger**. If the bombers are at the release point, of course it would be a very brief time for the flight of the ALCM. But if they are being launched, it will be an extended period, depending on the circumstances.

I thank you, Senator, for bringing up that testimony. You have served up a nice, fat pitch, so let me develop a little bit about what was said in the testimony.

Before I do that, let me say that for something on the order of 20 years I have expressed concern about the difference in the throwweight of the Soviet missile force and our own, going back to the time of Secretary McNamara's decision to concentrate on the Minuteman and to let the Titan force go down.

It has been necessary, given our responsibilities for Western Europe, to create a set of circumstances in which the Soviet Union cannot believe that it has disproportionate throwweight, in my judgment.

In 1973, when I was DCI, I briefed the NSC precisely on the emerging difference in throwweight between the two sides. If you read that testimony with considerable care, you will see that I said that hard-target-kill discrepancy, in my judgment, should never have been allowed to develop, and it should be corrected now.

However, we find ourselves in the circumstances that we do, and therefore we are obliged to attempt to compensate for the weakness in this one area. How do we compensate for it? Well, for one thing, we do not, I think, proceed to wring our hands.

The statement that was made at the request of the Foreign Relations Committee was in light of the President's statement that we were visibly inferior. I tried to provide a balanced picture, stressing our hard target kill deficiencies, but pointing out some of our advantages. The statements that I made in regard to the SLBM forces I think are essentially the same as today.

Now with regard to the issue of how to compensate for hard-target kill capability deficiency, we have greater capability in sensors. We indeed have greater capacity to execute, to plan and execute an attack. And moreover, the Soviet Union probably exaggerates the gap between ourselves and them in this regard.

We are now in a position in which we must shore up a deficiency in our deterrent, and that we must make available, of those assets that we have in order to shore it up.

I would have preferred never to have allowed this situation to emerge. That was the reason that once we saw the direction in which the Soviets were going after 1972, that we laid down the MX. The appropriate way to deal with an emerging counterforce capability is to threaten to develop a comparable capability to keep the Soviets from getting headstrong about the advantage.

I was concerned when I heard the President's statement that it might lead to too much confidence on the part of the Soviet Union, too much dismay on the part of our allies, and therefore I tried to present a more balanced picture.

But there is nothing in that statement that would suggest that the United States should have allowed these conditions to develop, given our international responsibilities, nor that it is not incumbent upon the Senate at this time to move in a direction of diminishing the particular discrepancy that you referred to.

Senator LEVIN. Well, I don't have any time left. We will have to let the statement stand for itself. It does reach a very different conclusion than you have reached today, but I am going to let that stand for itself. If that was a big fat pitch, I don't think you hit it anywhere.

Chairman TOWER. Senator Stennis, did you have any questions?

Senator STENNIS. Nothing to add. Thank you, Mr. Chairman.

Chairman TOWER. Fine. Senator Nunn?

SUPERHARDENING

Senator NUNN. On this question of superhardening, I don't know how much you have been into this, but if you have—you have already gone into it?

General SCOWCROFT. Oh, not before this committee.

Senator NUNN. Have you all concluded that superhardening is not feasible at this point in time, or have you concluded that superhardening is feasible? What is exactly your conclusion on superhardening?

Dr. DEUTCH. Senator, I believe that our conclusion on superhardening is best understood in the following manner. We believe that there is enormous promise to superhardening technology, that there is a substantial test program required—by substantial, I mean over a 2- or 3-year time period—to verify some of the issues in hardening. A test program is underway.

At the present time it would require concurrency in the R&D program and construction to proceed immediately to superhard silos.

So our judgment is it is very promising, but there remain some uncertainties that have to be proven in an orderly test program, as the document recommends.

Senator NUNN. Well, let's assume——

Chairman TOWER. Would you yield to me for a follow-on question to that, Sam?

Senator NUNN. Certainly.

Chairman TOWER. Did you consider any other what we might call growth options on the MX, to enhance survivability of the MX, besides hardening?

Dr. DEUTCH. We certainly looked at hardening with deception, Mr. Chairman.

Chairman TOWER. And the BMD overlay as well?

Dr. DEUTCH. Yes, sir. We also had several presentations on BMD overlay, and that would take you into an issue now about responses to Soviet action that we discussed earlier. But we did look at alternative MX basings in CSB, CSB with deception, either one of those variations with ABM overlay. We had some discussion on air mobile and deep underground as well.

Chairman TOWER. And you didn't foreclose pursuit of any of those options in R&D?

Dr. DEUTCH. I don't believe that any of those options are foreclosed here.

Chairman TOWER. Thank you, Senator Nunn.

Senator NUNN. Yes, sir, Mr. Chairman.

Then is your MX recommendation on basing in Minuteman silos compatible under let's say the best case for superhardening, compatible with superhardening when the MX IOC begins, or are we bound no matter what we do in the research, on a reasonable track that you recommend, are we bound to be out in front with the MX deployment before superhardening could become a reality?

Dr. DEUTCH. My judgment, Senator, and there are a lot of other issues which could come in there—new silos or old silos and how you manage that problem—is that you are talking about a second increment, were it necessary because of absence of arms control agreement. But the initial increment, whatever that number is, 50 or 100, would be called for in Minuteman silos.

Senator NUNN. And deploying in Minuteman silos then is not compatible with superhardening?

Dr. DEUTCH. I believe it would be difficult to go back and harden those Minuteman sites, both because of the geology in which they are and the construction of the sites, the levels which one speaks about when one talks about these extra-hard levels. You have to have the proper geology. There is only a given number of sites which is available even if you wanted to redig holes, but I believe it would require entirely new construction.

Senator NUNN. So what you are talking about, if there is a follow-on to the 100 or 50 or whatever MX's are approved, then that might be compatible with superhardening by the time you have an orderly R&D program?

Dr. DEUTCH. That is correct, Senator, as well as a small missile. If superhardening works out, it would also be a possible basing mode for a small missile. But that is a choice that cannot or need not be made today.

General SCOWCROFT. Senator, if I could just add one point on the hardening, there are some very innovative ideas about hardening which are very new. If they would prove out, and I am not suggesting at this time, but if they would prove out, they could perhaps be applied to Minuteman silos. They are different enough that the traditional kinds of hardening wouldn't apply.

Of course, if some development like that took place, we would advocate that the silos be hardened, to the extent they could be.

Senator NUNN. So Minuteman deployment is not totally incompatible with possible superhardening, but would you say that it is not likely now, that it is a long shot?

General SCOWCROFT. There are some very new ideas, and one of our Commission members, who happens to be the president of the Ironworkers Union, and thus familiar with things like this, has come up with some fascinating concepts which are worthy of pursuit.

Dr. SCHLESINGER. Senator, it is not a long shot. I think that as one reviews——

Senator NUNN. I am saying long shot in Minuteman silos with the MX. I am not saying——

Dr. SCHLESINGER. With the inital deployment? The odds are against it, I would say. But we had the feeling that the closely based system, Dense Pack, which depended on hardening, was perhaps somewhat premature, and for that reason led to its sour welcome when it was proposed; that given the uncertainty of public opinion with regard to the MX, that one ought to have in hand demonstrated capabilities at hardening, rather than speculative capabilities.

The Commission has recommended major R&D efforts to prove up, to demonstrate these capabilities. As General Scowcroft has indicated, they are very promising. For the intermediate term, the odds are, I think, that we can substantially harden, by an order of magnitude, our silos.

Senator NUNN. I understand in the testimony this morning that there was agreement by—I guess it was Secretary Brown who was here this morning—that deploying the MX in the Minuteman silos was not the preferable military solution.

Is that an accurate understanding of what was said?

General SCOWCROFT. I think so. I think had we been able, had we seen a way to deploy it in a more survivable way, we would have recommended it, yes.

Senator NUNN. Well now, when you say "not the preferable military solution", the implication of that is to me that there is a military solution that is more preferable than what you are recommending. I am not speaking of political or environmental or anything else, but the question then becomes a direct one: Is there a military solution to the form of MX that is indeed more preferable than what the Commission is recommending?

Dr. SCHLESINGER. As the Commission report indicates, in the judgment of the Commission this is the preferable solution. It is a solution that falls far short of the ideal. We would prefer, of course——

Senator NUNN. That is saying something, from what I understood the testimony was this morning.

Dr. SCHLESINGER. I think that there was a difference of view, Senator, between you and General Scowcroft, regarding the meaning of "preferable".

Chairman TOWER. There was some comment on that this morning. I think he indicated that probably hardened silos with deception would have been more desirable. Am I correct in that?

Dr. SCHLESINGER. If we could harden those silos with assurance of an acceptable cost, that would be preferable.

Senator NUNN. Well, the only thing I am saying is that if you say that this recommendation of the Commission to deploy the MX in Minuteman holes is not the preferable military solution, the clear implication of that to me is that there exists some other solution which is preferable militarily.

Dr. DEUTCH. Senator, may I take a pass at that sir?

PREFERABLE MILITARY SOLUTION

Senator NUNN. My follow-up is, what is the preferable military solution?

Dr. DEUTCH. Senator, I think that my view would be that vertical silos with deception is probably militarily equivalent—some people might say MPS, some people might choose the horizontal MPS--is the military equivalent to and perhaps even preferable from the point of view of survivability to MX and certainly preferable to MX in Minuteman silos.

The point I would ask you to keep in mind, sir, is the interrelationship of those steps to an arms control posture that is being proposed by the Commission in the movement toward a more stable arrangement.

I think that in my judgment, the way I would answer the question is that there are other—for example, vertical MPS—which might be in a narrow sense militarily equivalent from one perspective, but they do not offer the long-term move toward stability and choice which the proposed program does. Therefore, in my judgment it is the preferable program when you include both the arms control aspects and the possibilities of moving toward a small single-warhead missile.

Senator NUNN. I am not sure why, if deploying in vertical silos with some elements of MPS, if that is achievable, why that is incompatible with the other commendations; that is, the Midgetman and going to warhead arms control counts rather than launchers. It doesn't seem to me that your arms control implications are affected by having that as a possible military solution.

I understand the political ramifications. I am not talking about——

Dr. DEUTCH. I would just point to two things, Senator. First of all, I think it gives you an immediate SALT problem if you put out all those silos. Second, I would say they would cost a great deal more than the first increment that is being proposed by the Commission.

Senator NUNN. You are saying the cost itself might drive out the more preferable missile, that is the smaller missile down the road?

Dr. DEUTCH. Provided that we have the correct arms control context that we have discussed here today.

Senator NUNN. Would you agree that any basing scheme has grave implications as far as vulnerability unless we reach some arms control warhead limit, including Midgetman, including mobile missiles, including all the others that we have talked about?

Dr. DEUTCH. I think I have tried to state very clearly that there is, as far as I know, no land-basing or any other kind of basing for ICBM's that cannot raise serious questions of survivability, given a determined Soviet effort that we see in absence of an adequate arms control agreement.

ARMY CONTROL FOR SURVIVABILITY

Senator NUNN. I remember one of the real objections of some people who opposed the MPS system was that it depended on SALT II warhead limits to be effective. Then it seems to me that what the Commission is saying is that that was really not a legitimate criticism, a sound criticism, because any basing mode, even including the ones that you visualize down the road, depends on some elements of arms control for survivability.

Is that a fair analysis?

General SCOWCROFT. Senator, survivability is an illusive term. It depends on how you look at it.

Senator NUNN. I think we can all stipulate that.

General SCOWCROFT. If you are talking about having your forces survive under any circumstances of attack, I think that is probably correct. But another way to look at survivability is the cost which he has to incur to be able to destroy them, and if that cost is incommensurate enough, then in a sense you have survivability even though the individual target can be destroyed.

Chairman TOWER. In other words, force exchange ratios become an important factor here?

General SCOWCROFT. Absolutely, and you cannot look at survivability without——

Senator NUNN. Of course, that was also true in the previous plan.

General SCOWCROFT. Yes.

Senator NUNN. There is nothing new about that. That is true in all of them.

General SCOWCROFT. Absolutely.

Senator NUNN. Let me ask one other question and then I know the Chairman has been here all day and I will yield and ask questions of later witnesses.

Did you look at strategic air defense in the sense of what we are doing now in this budget? It is not mentioned in your report anywhere. If we are spending literally billions of dollars for what is known as strategic air defense, it occurs to me that the Commission would have either said that is wonderful, good, fair or indifferent, but it is not mentioned.

General SCOWCROFT. I must confess, Senator, we really did not. We felt that our scope was adequate enough for the time and the skills of the members, without getting into strategic air defense, so we did not.

Senator NUNN. Does that mean strategic air defense is irrelevant to this overall arms control missile equation?

General SCOWCROFT. No, not necessarily. It means that it is a separate and sizable issue by itself.

Senator NUNN. Any other comments from the other witnesses?

[No response.]

I would like to ask Dr. Deutch, do you have a comment on that?

Dr. DEUTCH. No; I don't, Senator. I have to admit that we did not cover that subject as well as we should have.

Senator NUNN. Dr. Schlesinger? It must not be a very large factor. It seems to me——

Dr. SCHLESINGER. I think that without describing any capability as marginal, that one has degrees of marginality. And the underlying point is that——

Senator NUNN. I had forgotten what a skillful witness you were. [Laughter.]

Dr. SCHLESINGER. The underlying point, Senator, is that as long as the Soviet Union bases its forces primarily in ICBM's, and since we will have no serious ABM defense this century, if ever, that the Soviet Union can destroy whatever targets it wishes in the United States, irrespective of whether or not we beef up our air defenses.

Senator NUNN. Would it be fair to conclude, then, that you would want those F-15 pilots to be able to be deployed very rapidly to Europe and help in a conventional attack, and not simply wait here for strategic air defense purposes?

Dr. SCHLESINGER. Without going into these details, Senator, that would be my inclination. As you will recall, originally I took the AWACS and deployed it overseas because I thought it was relevant to our overall posture, not to air defense in the United States.

Senator NUNN. Thank you very much, Mr. Chairman.

Chairman TOWER. General Scowcroft, Dr. Deutch, Dr. Schlesinger, we want to thank you very much for putting in a long, hard day with us today and for, I think, extremely helpful testimony. We appreciate your willingness to appear and your very forthright answers.

Senator STENNIS. I want to join in that thanks too, and say that it helps with this, the gravest question we have up this year.

General SCOWCROFT. Thank you very much.

Senator NUNN. I again just want to thank all the Commission members. I think you rendered a real service.

[Subsequent to the hearing, Senator Carl Levin submitted questions to be answered for the hearing record. The questions, with answers supplied, follow:]

Senator LEVIN. General Scowcroft, what is your reaction to the following?

During the 1960's and into the 1970's we tended to take the survivability of our strategic forces for granted. Many if not most, of the debates of those years centered around these other issues—for example, the wisdom, or lack thereof, of having a counterforce capability (i.e. the ability to attack military targets, especially hardened ones such as ICBM silos), or of having the doctrine and the ability to conduct limited nuclear exchanges.

The debates on many of these latter topics, although they reflect important policy disagreements, have become abstruse and entangled. Further, time and the march of technology have passed some of them by, although much of the noise of strife still lingers in the air. It is time to focus the debate about our strategic forces on that which is clearly necessary—namely, survivability—and to put it ahead of discussions about those added capabilities.

Isn't this what your Commission is doing—downplaying the survivability issue and focussing on the alleged need for prompt hard target kill in limited nuclear exchanges as the rationale or justification to sell MX?

Why do you disagree with your fellow Commission member, James Woolsey, who wrote these words in February, 1982, in a paper for the Center for National Policy, entitled "Survivability"?

General Scowcroft. There is no disagreement with Mr. Woolsey and the Commission considered survivability a fundamental, but not the only, requirement. We chose to deal with survivability over the longer term through development of a small, single warhead missile. Over the near term, the Commission believed its MX proposals provided adequate survivability and provided the essential environment to permit development of the small missile.

Senator Levin. Mr. Woolsey continued:

A good argument can be made that we need the flexibility to conduct limited nuclear strikes and to attack hardened Soviet targets in order to help deter Soviet leaders who have given ample evidence of the prime value they place on their instruments of military power. Programs devoted exclusively to the objective of having such a counter-force capability, however; should have to pass a more demanding fiscal and philosophical test than survivability improvements. In any case, most of the hard questions on strategic forces today relate to survivability.

Doesn't the Commission' recommendation to deploy MX in Minuteman silos, since they are not survivable, mean it is a program devoted exclusively to the objective of having such a counterforce capability, as Mr. Woolsey wrote? Isn't \$14–\$17 billion a lot to pay for a nonsurvivable, counterforce capability ?

General Scowcroft. The Commission believes that its recommended MX deployment provides adequate survivability for the near and interim term and is essenial to the development of the small, single warhead missile which will provide survivability over the longer term.

Senator Levin. Commission Member Woolsey wrote the following about the Administration's original recommendation to deploy MX in silos:

The current ICBM survivability program;

The Reagan Administration's decision on ICBM basing gives up a degree of near-term ICMB survivability given Soviet ICBM accuracies, the Administration's decision to deploy MX in existing silos, hardened or not, provides little more than a fig leaf and that, at best, for only a short time.

General, why isn't your recommendation to do the same "little more than a fig leaf, and that, at best, for only a short time," and an extremely expensive fig leaf at that?

General Scowcroft. Successful deterrence is the best means to assure survivability and the MX significantly enhances deterrence. In addition, it is adequately survivable, given the synergism with our bomber forces, over the near and medium term and its survivability will be further enhanced with development of the small, single warhead ICBM.

Senator Levin. General, how do you respond to the following statement by Chairman Tower, written in US News & World Reports on January 10, 1983:

The bigger, more accurate MX missile is vital if we are to redress these imbalances. The MX gives us the capability to respond quickly and to destroy any Soviet capability to conduct further offensive warfare against us. But we must base the missile in such a way that Russia can't destroy it at a stroke.

This is critical, because the value of the Missile, in and of itself, would not be sufficient Justification for proceeding with such an expensive program.

We should not spend money on the missile if we cannot find a way to insure its survival. That would mean buying an expensive missile and putting it in holes that become increasingly less survivable as the Soviets improve their capability to beat it. To think otherwise is to think that Russia will act with restraint and not attempt to defeat MX. Well, that's false on the face of it.

General Scowcroft. I believe Senator Tower's support of the Commission recommendations is the best indication of this reassurance on those points.

Senator Levin. Dr. Brown, when the Reagan Administration proposed to deploy 36–40 MX in hardened silos, you were quoted as follows:

"I guess it's better than nothing, but it is not much," said Brown in an interview. "Clearly it does nothing to solve the vulnerability problem which I consider to be real."—Washington Post, Oct. 4, 1981.

Why are you now asking the American people, or recommending to them, that we spend \$14–\$17 billion for a similar deployment—something even less survivable and therefore also "not much better than nothing?" That's a flimsy justification for such an expense, isn't it?

Shouldn't the American taxpayer receive more for his or her scarce defense dollars?

Dr. **Brown**. Whatever you believe about the vulnerability issue, and I still believe that is a major concern, the size and accuracy of warheads and the hardness of the target are the variables in the equation. This leads to deploying one hundred missiles and negotiating a lower level of warheads on each side is better than working to increase hardness of silos to keep pace with each and every increment in Soviet throwweight or megatonnage. The proposed deployment of the small mobile missile reinforces that conclusion.

I continue to believe that a hardened deployment in multiple protective shelters is the optimum way to deploy the MX. That should be pursued along with arms control, when the proper time comes. The report was built around the synergism of the three major points—MX, the small missile, and arms controland was submitted as a package. The elimination of any of three points would call into question the validity of the other two.

Senator **Levin**. You also were quoted about MX in silos as follows:

Though Brown says there is at least some value in getting the MX into the field and leaving open options for the future, he believes that the overall decision is a mistake and that it virtually assures that none of those longer-term options could be available until 1990 at the earliest. He also feels that Moscow will probably continue to build up its warhead arsenal anyway and that, without the MX shell game, the Soviets will be able to barrage many other United States military targets more heavily.

Isn't this Commission urging us to make the same mistake, regardless of whether other options could be available earlier?

Dr. **Brown**. That statement was made regarding the difference between the so-called shell game and the proposed interim deployment of forty missiles. It really does not apply to the current discussions. That the Administration and the Congress have at various past times rejected what might have been better actions does not free any of us from now trying to choose the best among the options now realistically available. Again I emphasize the need to consider the recommendations of this Commission as a package, not as three separate and distinct proposals.

Senator **Levin**. If you thought then that Soviets would probably continue to buildup their warhead arsenal regardless of MX deployment in silos, do you have any evidence that they will be less inclined to do the same in the face of this present plan?

If so, doesn't this directly contradict the Commission's justification that MX deployment in silos would encourage the Soviets to move toward single warhead missiles, another rationale for this flawed scheme?

Dr. **Brown**. I believe that the MX missile can induce the Soviets to realize that their large land-based missiles are a wasted asset. They would then be encouraged to reduce warhead numbers on both sides, making both United States and Soviet land-based missiles more able to survive.

Senator **Levin**. Doesn't the Commission's recommendation suffer from the same flaw as the President's—it too will not prevent the Soviets from barraging many other United States military targets more heavily since they will not be required to expend very many warheads to eliminate the MX in silos?

Dr. **Brown**. I believe that there exists now and will exist for some time into the future, a measure of survivability provided by the other legs of the Triad. For the short term, the sea-based and bomber legs should fill the gap, and the Soviets cannot in the short term barrage them. In the longer term the small mobile missile can contribute significantly to the survivability of the other systems, as can improved MX basing modes. In any regard, we can not afford to consider any single leg of the strategic Triad as being totally divorced from the others.

Senator **Levin**. Dr. Schlesinger, in reaction to the Reagan proposal to deploy MX in silos in late 1981:

"It's a decision to punt" said Schlesinger of the plan to install the MX initially in remodeled and strengthened underground silos now used for Old Titan II missiles.

"It does not deal with the vulnerability issue that has been advertised at considerable length."

He said in a telephone interview:

"By itself it does not close the window of vulnerability."

Schlesinger says his chief worry about the overall $180 billion Reagan strategic package is that it spreads around resources and may run up costs. This is a program of sizable costs, while the military is under severe pressure and does not seem to achieve the goal of closing the window of vulnerability. One should want to make sure it does not result in draining away resources from the "general purpose force" he said.

Isn't this recommendation by the Commission the same type—one to "punt," and doesn't it divert scarce resources—$14–17 billion away from conventional forces to spend them on something which does not close the window of vulnerability?

Dr. SCHLESINGER. No, Senator, it is not a decision to punt. The statement you quoted referred to placing the MX missile in Titan silos. There had been no engineering studies made on those silos and it would have been pure folly to have pursued that course of action. On the other hand, the MX was designed from the outset to go into Minuteman silos. While I will agree that this does little in the short term to close the existing window of vulnerability, it will hopefully have great and lasting impact on the survivability of future systems, including the small mobile missile and land-based bombers.

The Administration's present and prospective MX difficulties are to a considerable extent its own creation. From the first it has inordinately tied the case for the MX to a survivable basing mode. Yet U.S. ICBM vulnerability is determined primarily by the trend in weapons technology and by Soviet actions. Nonetheless, silo vulnerability has been blamed on U.S. decisions, especially on arms control (that, one presumes, was SALT II's "fatal flaw"). Much of the rhetoric about "closing the window of vulnerability" presupposed some easy U.S. solution to ICBM vulnerability. Thus, the Administration has now become entangled in its own rhetoric: for in the years ahead, the window of vulnerabiltiy will gradually and inevitably open more widely.

If reducing vulnerability were the only or prime consideration, the clear answer would be to abandon the search for an invulnerable ICBM basing mode—and, with all its risks, to go to sea. But the case for MX has always rested elsewhere. ICBMs provide accuracy, controllability and selectivity not available in the submarine force. ICBMs remain, therefore, an essential ingredient in any U.S. nuclear strategy that provides extended deterrence for our allies overseas. Above all, the MX provides the possibility of offsetting the disturbing Soviet advantage of throwweight. It maintains the pressure on the Soviets: should the Soviets continue the nuclear arms competition, we can prospectively match their burgeoning counterforce capabilities.

This prospect underlies the usefulness of the MX as a bargaining chip in arms negotiations. It was for this purpose that the MX was designed in 1973—in the days of the scarcely remembered SS–9. The MX decision should have never been tied exclusively to the silo vulnerability issue. For it is only in the context of matching Soviet throwweight and counterforce capabilities that an affirmative MX decision—even though the program has now been squeezed down to the point of marginality—remains fully warranted.

Senator LEVIN. Dr. Brown, the Commission repeatedly states that MX is needed to respond in a prompt, "limited" or "controlled" manner against Soviet hard targets. You have expressed very strong doubts that a nuclear exchange could be kept limited. Former Chief of the Joint Chiefs of Staff, Gen. Davy Jones also stated these doubts.

Isn't the commission fostering an illusion about the prospects for such a limited nuclear war, and therefore falsely increasing the supposed utility of MX?

Dr. BROWN. Not at all, Senator Levin. Let me restate a key point to this entire issue. The primary purpose for the deployment of these systems is to provide a capability for a measured response, in order better to deter nuclear war. If that purpose is achieved, there need be no other utility for the MX or any other system.

Senator LEVIN. Similarly, the Commission emphasizes the need for "prompt" hard target kill. During the SALT II debates, you testified to SASC that:

> There are many, many different alternatives that we can take under those circumstances if the Soviets were to shoot just at our Minuteman, assuming that we didn't fire back before they were destroyed. In that case we could hit their urban industrial complexes, we could hit their conventional military forces, we could hit their nuclear forces. The only thing that is missing from this

scenario is the ability to hit their strategic ICBMs within half an hour or an hour instead of 10 hours. I submit that that is not a central issue in the midst of a catastrophic thermonuclear war.

If it wasn't a "central" issue then, why is it now? Why should we spend $14–$17 billion on a secondary concern?

Dr. Brown. As was pointed out in testimony before the committee, the "catastrophic" scenario, we feel, is the least likely to occur. Look again at the Cuban Missile Crisis of the early 1960s. No missiles were fired—no bombs were dropped, yet national aims were met by a "show of force". Again, what we are trying to accomplish with our strategic forces is to deter a conflict, not to fight one. To do that requires that we be able to respond to Soviet plans and scenarios which we can only infer, including Soviet estimates of U.S. capabilities to respond to selective attacks.

Senator Levin. Secretary Brown, you also had the following exchange with Chairman Tower during our SALT II hearings in 1979:

Senator Tower. But still we have no acceptable response during this window of Maximum vulnerability if indeed they launch the first strike and wipe out essentially 80 percent of our ICBM force.

Secretary Brown. Senator Tower, that is so only if you define as the only acceptable response a strike that within 30 minutes wipes out the Soviet Residual ICBM force. I submit that that is not the principal issue under those circumstances. The kind of attack you are talking about will probably have killed 10 million Americans. The United States under those circumstances would not want to limit its response, at least, I don't think it would, to destroying Soviet residual ICBM's surgically and very promptly. I think there would be a lot more important response components than that one.

If the ability to respond to a Soviet first strike within 30 minutes to wipe out their remaining hard-target ICBM silos was not a "principal issue to you in 1979, why is it so important now? What are the "lot more important response components than that one" to which you referred? Do they still exist today, and if so, why this excessive emphasis on the MX and prompt hard target kill responses in the Commission's report?

How could you agree to this emphasis on such an important issue?

Dr. Brown. I don't recall having said that it is a principal issue now. But one of the primary purposes of our strategic forces is to offset Soviet calculations of their interest and aims in a possible conflict beforehand. In doing that, we cannot ignore the importance they seem to ascribe to this particular type of capability, on which they have spent several times the cost of MX. We need to be able to decisively deter unlikely attacks, or they will become more likely.

Senator Levin. In discussing the ICBM vulnerability problem in your Fiscal 1979 Defense Department Annual Report, Dr. Brown, you undercut the need for a missile like the MX on the basis of a need for controlled, hard target kill options by saying:

". . . the surviving U.S. forces would also be capable of a broad variety of controlled responses aimed at military and civilian targets and proportioned to the scale and significance of the provocation.

Why doesn't this now contradict the need for the MX in silos?

Dr. Brown. It doesn't contradict the need for the MX because this is no longer 1979. The issue has changed considerably since that time. We and the Soviets have taken steps which variously reinforce or negate previous decisions and positions. We must deal with this issue as it now stands, not as it stood in 1979. What is acceptable as a deficiency for a few years does not thereby become acceptable indefinitely, or for a decade.

Senator Levin. You also stated:

In short, the vulnerability of MINUTEMAN is a problem, *but even if we did nothing about it*, it would not be synonymous with the vulnerability of the US, or even of the strategic deterrent. *It would not mean that we could not satisfy our strategic objectives. It would not by itself even mean that the US would lack a survivable hard target capability or that we would necessarily be in* a worse post-exchange position in terms of numbers of weapons payload, or destructiveness." (Emphasis added.)

Dr. Brown, if there is only a modest, secondary, less important need for prompt hard target kill retaliatory capability, and if we will have hard target kill retaliatory capability even if we did nothing about replacing MINUTEMAN, based on your own statements, why should we deploy MX in vulnerable silos?

Dr. **Brown**. Because, Senator, the issue is broader than survivability. The issue includes the establishment of an environment which supports serious arms control negotiations and the potential for deploying smaller, less expensive single-warhead missiles which we would hope could be mobile, thereby confounding the problems facing the Soviet planners and contributing to our increased security. The submarine force in being will provide security to the ICBM force for the time being, but it can not be expected to last forever. If we expect to be secure from potential threats in the future, we must be prepared to pay a portion of the price for that security now.

Senator **Levin**. General Scowcroft, throughout the report, when the Commission discusses the need for MX in silos to provide the US with prompt, hard target kill capability, it says, among other statements:

Effective deterrence of any Soviet temptation to threaten or launch a massive conventional or a Limited nuclear war thus requires us to have a comparable ability to destroy Soviet military targets, hardened and otherwise.

In the meantime, however, deployment of MX is essential in order to remove the Soviet advantage in ICBM capability and to help deter the threat of conventional or limited nuclear attacks on the alliance.

Third, the serious imbalance between the Soviets' massive ability to destroy hardened land-based military targets with their ballistic missile force and our lack of such a capability must be redressed promptly.

With deployment of MX, the US will have 1,000 prompt hard target kill warheads on that missile and another 900 on the 300 Minuteman III missiles outfitted with Mark 12A warheads. The Soviets could have an estimated 4,500 good hard target kill, ICBM warheads by that time. Considering that there are thousands of hardened targets in the USSR that we might want to cover—many more than the 1,900 warheads we will have—how can even MX deployment provide a "comparable ability" to that of the Soviets or "remove" their advantage or "redress" the imbalance?

General **Scowcroft**. It is not necessary to match the Soviets warhead for warhead in order to redress the current imbalance sufficiently to greatly enhance deterrence.

Senator **Levin**. Isn't that holding out a false promise to the American people?

General **Scowcroft**. We do not feel that this holds false promise at all. We have simply stated our recommendations for a program which we feel can enhance national security at an acceptable cost for a significant time. A one-for-one deployment is not necessary to provide the benefits set forth in the Commission report.

Senator **Levin**. MX will not be fully deployed until 1988 or 1989. Before that, its hard target kill contribution will not be very impressive to the Soviets. How can you consider this to be a "prompt" redressing of the imbalance?

General **Scowcroft**. The term "prompt" is obviously relative. The MX provides the earliest possible rectification of the present unsatisfactory situation. In addition, the decision to deploy will, in itself, make a contribution to deterrence in advance of the actual emplacement of the missiles.

Senator **Levin**. You reject upgrading the remaining 250 Minuteman III's with new guidance systems and Mark 12A hard target kill warheads by saying it would take too long and there would not be enough hard target kill warheads resulting. If we still will be far short of a comparable capability to the Soviets with 1,900 RVs, how can we be that much worse off with 900 hard target RVs on Minuteman III now, or 1,650 if we upgraded the Minuteman III?

General **Scowcroft**. Certainly we are not operating with unlimited funds. If we were, there would be little reason for us to have debated the necessity for this system from the outset. The biggest argument against the modernizing of the Minuteman fleet is that the cost/capability ratio is poorer and the time involved is longer. In addition, the fact of an MX production line is a powerful incentive for the Soviet Union to negotiate seriously.

Senator **Levin**. If MX deployment will not be finished before probably 1989, why will a few more years be significant in terms of redressing the imbalance, if we used them to upgrade Minuteman III? We will still have the other, improved legs of the Triad to compensate for the ICBM's, won't we?

General **Scowcroft**. It is true that the other legs of the Triad will provide some measure of survivability to the ICBMs for the next few years. This cannot and will not last forever. The Minuteman III is streached about to the limits of its capability. Even if it were modernized, it could go no further. You will have reached the extremes of its capability. The MX, on the other hand, is a new missile employing new technology. It could, if necessary, be modernized over the years. It will give us base from which we can operate as production lines will have been open and operating. The Minuteman force is now experiencing engine replacement due to aging. The production line is closed. No more will be built. The cost of opening the line again would be substantial. In fiscal terms alone, it makes sense to deploy MX.

Senator Levin. If we deploy MX, the ratio of Soviet advantage in prompt HTK to US forces goes from 5 or 6 to 1 now to 5 or 6 to 2 with the 1,000 MX warheads, before a Soviet 1st strike. After a 1st strike, we have almost nothing left, and they still have 1,000's of land-based prompt HTK warheads.

How can you really contend that the deployment of MX will make any significant difference in either the pre-or post attack ICBM balance, when there still is such a large disparity. Why should the Soviets, or the US taxpayer for that matter, be impressed if we only raise the ratio from 6 to 1 6 to 2 and spend $17b.

General Scowcroft. The primary purpose of our strategic forces is the deterrence of nuclear war. When viewed in this context, what the exact ratio of exchange might be under various scenarios is not the vital determinant. What is important is to maintain at least that level of forces which would make contemplation of an attack a Soviet attack unprofitable for the Soviets. We do not necessarily have to match the Soviets weapon for weapon, but the capabilities must not be disparate. We can and should maintain that level of capability which will render ineffective attempt on their part to either attack us or our allies or to attempt to subject us to nuclear blackmail or coercion.

Senator Levin. General Scowcroft, the Commission dismisses upgrading Minuteman III's to give the United States additional prompt hard target kill capabilities, in part, because it says "our current ICBM force is aging significantly. The TITAN II force is being retired for this reason and extensive Minuteman rehabilitation programs are planned to keep those missiles operational."

General, was the Commission informed, during its process of reaching this conclusion, that the commander of our Strategic Air Command, Gen. Bennie Davis, USAF, testified to the Senate Armed Services Committee last year that the present Administration decided to retire TITAN II's not because of any safety problems but solely to save money and that if the additional funds had been available, he would have preferred to not retire the Titan II's?

General Scowcroft. Yes. We were made aware of General Davis' opinions.

Senator Levin. In reaching this conclusion, was the Commission informed by the Air Force that it many times has testified to the Committee that our current Minuteman force is very reliable now and will be a "key weapon system" through the year 2000, at least?

General Scowcroft. Yes. This Commission too feels that the Minuteman weapon system will continue to make significant contributions to the national defense efforts over the next several years.

Senator Levin. How, and why, in view of the following statements, did the Commission reach the conclusion that our Minuteman III's are "aging significantly," and thus unworthy of upgrading, if necessary or desirable:

Minuteman is very reliable now and is expected to continue to be a key weapon system through the year 2000.—March 2, 1983, Air Force letter to Armed Services Committee.

Currently, planned life extension programs will be complete in 1933 with installation of the last new Minuteman II Stage III motor. At that time weapon systems life can be extended into the 21st century.—Same Air Force letter.

The Minuteman is fully capable now and should continue to be an effective weapon system through the year 2000, if not indefinitely.—Air Force/DOD response to question for record at Armed Services Committee hearing, March 8, 1982.

Our oldest active Minuteman missiles are still on alert with high reliability even though they are approaching 20 years in age.—Air Force response to Armed Services Committee staff question, November 1981.

General Scowcroft. The Commission position on the significant aging of the Minuteman force is focused upon the ability to upgrade it to fulfill the role of a prompt hard kill weapon system. The Minuteman is now at the upper limits of its capability. The modernizations which are now being conducted and planned are, for the most part, modernizations in engines and support type equipment and do not include upgraded guidance and control systems or increased capability warheads. They are still basically 1960's technology, and should not be relied upon to fill a 1980's or even a 1990's role unsupported. The MX and later the small missile should provide the support necessary to allow the Minuteman missiles to fulfill their mission over the next few decades.

Senator **Levin**. General Scowcroft, you claimed in testimony today that the Commission integrates "for the first time" arms control and strategic force modernization.

Secretary Brown, when you proposed MPS, did you not integrate that with the arms control policies of the Carter Administration?

It is not true that SALT limits is an important consideration in terms of the threat you thought the Soviets would mount?

General Scowcroft, are you saying that the Administration, despite its claims as to how closely linked the MX is to its START position—President Reagan said he'd have to bring his negotiator home without the MX—that part really is not true.

Are you saying that the 1st Towers Committee did not consider arms control in recommending aircraft basing for MX?

Dr. **Brown**. Yes; we did. The issue here is really one of timing. In the past, arms control and force development have not been integrated until some time well downstream. The Commission advocates joining the two from the beginning. This forces the systems people to consider more seriously the arms control aspects of proposed systems, and the arms controllers to pay closer attention early on in the conceptual stages of the development of weapon systems.

General **Scowcroft**. We are not saying that at all. We are pointing out that we are considering longer term strategic force development—the small missile—and the arms control environment we are seeking as being inextricably related from the outset. Traditionally, weapon systems have been related to arms control only after their development was well along.

Senator **Levin**. General Scowcroft, the Commission contends the MX is necessary to prompt the Soviets to agree to arms control agreements as well as to evolve their strategic force into less destabilizing, single warhead missiles.

Yet, Senator John Tower, Chairman of our Committee, said on November 2, 1981:

"By stuffing the MX's into fixed silos, we're creating so many more sitting ducks for the Russians to shoot at. . . . True, the MX missile itself will be more powerful, more accurate—and we need that kind of weapon. But it's of little use to us unless the Soviets are convinced that it can survive an attack. Without that, the Russians will have no incentive to start serious arms-control talks."

Chairman Tower said this when the Administration proposed deploying MX's in silos in late 1981. Why do you think this conclusion isn't just as valid today, General?

General **Scowcroft**. I do not think it is as valid today because we are now going well beyond what was suggested in November 1981. We have proposed an integrated, three part program extending over a number of years. The entire context of our recommendations is different from the proposals of 1981. Senator Tower's support is clear confirmation of this difference.

Senator **Levin**. General Scowcroft, the Commission emphasizes that reducing the value of nuclear targets by moving away from large, multi-warhead missiles to small, single-warhead missiles is stabilizing and promotes arms control. By your own definition then, doesn't deployment of a 10-warhead, large missile contradict the Commission's own central thesis and desired goal? Isn't such a deployment in 100 vulnerable silos destabilizing, especially in a crisis between the two superpowers?

General **Scowcroft**. It may appear contradictory but in fact it is not. The MX is an essential element in allowing us to transition from the present situation to the more stable environment we plan for the future. Without the MX, we do not believe we can attain that future environment.

Senator **Levin**. General, what is your reaction to the following statements:

So, it is pertinent to ask whether the proposed new programs increase our force stability, that is, whether they reduce the risk of accidental war. . . .

Unfortunately, the silo-based MX has some potential for decreasing stability. An MX missile will be substantially more threatening than any other single weapon in our force, but at the same time, it will be an easy target for a single warhead SS–18 or SS–19. This combination of high effectiveness and high vulnerability tends to be destabilizing during a crisis period.—Oct. 14, 1981, San Jose Mercury News.

Why would you disagree with the author, Dr. William J. Perry, a Senior Counselor to the Commission and former UnderSecDef for Research & Engineering? Dr. Perry was talking about the Administration's original plan to base 36–40 MX in Minuteman or Titan silos, which were to be hardened. Wouldn't deployment of more than twice as many MX—10 in unhardened, even less survivable silos as you are proposing, be even more destabilizing?

General Scowcroft. Dr. Perry made this statement over a year ago, referring to the proposed interim deployment of the MX in Minuteman silos. The recommendations in the Commission report cannot be received in isolation but only as integral parts of a single overall program.

Senator Levin. On February 13, 1981, Dr. Perry was quoted as follows:

> "The worst of all possible solutions," according to Perry, would be to place the new MX missiles in the old silos that now hold Minuteman III missiles. This, too, is being considered by the new Administration. Perry thinks it would do nothing to solve the problem of missile vulnerability, but would increase the Soviets' interest in striking first in a nuclear war.

It would probably force the United States to adopt a policy of "launch on warning," in which our missiles would be fired after military radars had spotted something resembling a nuclear attack. Perry says he cannot even discuss this option "without breaking into tears." Fundamentally, it "amounts to turning over to a computer the decision to start World War III." Perry says his enthusiasm for electronics does not extend that far.

Dr. Brown, would you agree with your former deputy and colleague at the Pentagon about this dangerous condition of crisis instability—a destabilization of the nuclear balance—by placing MX missiles in silos?

Dr. Brown. The best response is Dr. Perry's endorsement of the Commission recommendations. His statement was made in the past, under different circumstances and in effect, regarding a totally different issue—the interim deployment of MX in Minuteman silos.

Senator Levin. General Scowcroft, why do you disagree with this characterization of the impact of the Commission's recommendation?

General Scowcroft. This is not a characterization of the Commission's recommendations. It is a statement made before the establishment of this Commission regarding a totally different issue. If anything, this statement should underscore the different nature of the Commission findings by demonstrating that, despite the previously-held feelings of its members on particular aspects of the overall issue with which we dealt, we are unanimous in our current position.

Senator Levin. General Scowcroft, your report and statement emphasize the need to deploy the MX "to demonstrate U.S. national will and cohesion."

Considering the fact that many of the major members of the Commission and several of its key senior counselors have in the recent past all made statements directly contradicting the rationale and wisdom of the Commission's main recommendation about the MX, isn't the bottom line of this report that you are asking the American people to spend $14–17 billion to demonstrate national will for a period of about 3–4 years between full deployment of MX and deployment of other systems—upgrading Minuteman III to give it prompt hard target kill capability equal to MX or the already scheduled deployment of hundreds of hard target kill capable Trident II warheads—which are either less costly or more survivable?

That comes out to about $3 to $4 billion dollars a year worth of national will—very expensive price for so little time, isn't that true?

Why do you think that given all the other strategic programs we have, and all the other defense and domestic programs we have to fund, that this nation can afford such a high price for symbolism?

General Scowcroft. It is important to remember that the recommendations of this Commission are submitted as an integral package—not as separate and distinct paths of action. What you term as the main recommendation of the Commission is inextricably linked to the other recommendations and derives a major portion of its strength from the relationship with them. It far surpasses symbolism in that it provides a foundation for the ultimate deployment of the small missile and greatly lends itself to the establishment of an arms control environment which will ultimately result in increased stability and reduced tension.

Senator Levin. General Scowcroft, on pages 4–6 of its report, the Commission details at length the extent of the Soviet strategic nuclear forces improvements. At one point, it states:

Historically the Soviets have not been noted for taking large risks. But one need not take the view that their leaders are eager to launch a nuclear war in order to understand the political advantages that a massive nuclear weapons buildup can hold for a nation seeking to expand its power and influence, or to comprehend the dangers that such a motivation and such a buildup hold for the rest of the world, page 4.

What specific evidence does the Commission have that the Soviets have obtained "political advantages" from their massive nuclear weapons buildup? Since parity, or even alleged "imbalance" in the Soviets' favor occurred, does the Commission have any specific evidence that the Soviets used their massive nuclear weapons buildup to successfully blackmail the U.S. into not acting or to successfully blackmail other nations into not supporting our position? Provide such evidence, for both questions, for the record.

Isn't the Commission overstating the political utility of nuclear weapons?

General **Scowcroft**. To state that power or military strength is a subtle backdrop to negotiations, to diplomatic and political maneuvering, indeed to almost every aspect of a country's political dealings with the outside world seems such a truism as to be beyond dispute.

Senator **Levin**. The Commission, on page 5, states:

> But the world in which we must live with the Soviets is, sadly, one in which their own assessments of these trends, and hence their calculations of overall advantage, influence heavily the vigor with which they exercise their power.

Does the Commission have any evidence that the Soviets now think that their massive nuclear weapons buildup have given them some kind of "overall advantage" over the United States? Please provide it for the record.

General **Scowcroft**. The Soviets say different things for different audiences but they have, on a number of occasions, stated or indicated that they believe the "condition of forces" is moving in their direction.

Senator **Levin**. To what extent do the members of the commission think there is an overall nuclear imbalance favoring the USSR—not just in ICBMs but taking into account all our strategic forces and all of theirs—and to what extent does the fact that there is one, or that there is the perception of one, lead the Commission to the recommendation to deploy MX in 100 silos?

General **Scowcroft**. For quite some time we have operated under the assumption that there is rough parity between the two sides in overall strength. But this alone can lead to faulty conclusions because there is no weight or common currency, which portrays the complete picture. The Soviets have the preponderance of their forces in their large, land-based missiles. In these, they have a distinct advantage over the United States. We, on the other hand, have a much larger bomber force than they. But bombers take eight to ten hours, or even longer to reach their targets, whereas missiles can arrive on target in well under an hour. In addition, the missiles do not have to contend with the many different forms of ground-to-air defense which the bombers must. Therefore, the two are not commensurate. Taking this into account, we do not feel that the Soviets will have any particular motivation to negotiate in earnest as long as they possess the capability for prompt hard-target kill while we do not.

Senator **Levin**. If the Commission thinks there is this imbalance, why did it say on page 17:

In any circumstances other than that of a particular kind of massive surprise attack on the United States by the Soviet Union, Soviet planners would have to account for the possibility that MX missiles in Minuteman silos would be available for use, and thus they would help deter such attacks. To deter such surprise attacks we can reasonably rely both on our other strategic forces and on the range of operational uncertainties that the Soviets would have to consider in planning such aggression—as long as we have underway a program for long-term ICBM survivability such as that for the small, single warhead ICBM to hedge against long-term vulnerability for the rest of our forces.

Also, if this is the case, why do we need 100 MX in silos if we initiate a long-term program to develop a survivable ICBM, such as the small, single, warhead missile?

General **Scowcroft**. If you will refer to page 17 and place the extracted quote back into the context of the report, it should become quite obvious that we believe that there is an imbalance but that we feel that we can deal with this imbalance adequately over the course of the next several years as long as we have underway a program for long-term ICBM survivability. We feel that whatever the Soviets believe about their test accuracies, they can hardly be convinced that operational accuracies will be the same. This, in conjunction with the synergistic survivability which exists now and should continue to exist for the next several years, should dissuade them from undertaking a pre-emptive attack against our forces. Whether there is an imbalance is not the most nearly correct question to apply. Regardless of the existance of any imbalance the question would still remain whether they could eliminate enough of our forces to make the potential cost low enough to warrant their attacking in the first place. Certainly the probability of operational difficulties precludes this possibility, at least for the next few years.

We need the MX in order to be able to create an arms control environment conducive to the deployment of the small mobile missile. We do not feel that moving ahead with the small missile in absence of such an environment will as significantly enhance stability.

Senator LEVIN. General Scowcroft, would you trade our strategic Triad for the Soviet Triad? Would you agree with Assistant Secretary of Defense for International Security Affairs Richard Perle when he says he would not trade our Triad for the Soviet Triad?

General SCOWCROFT. I would agree with Mr. Perle. I don't think I would trade our Triad of forces for the Soviets'.

Senator LEVIN. General Scowcroft, the Commission Report, says to sustain deterrence, the United States has to show a commitment to do what is necessary to maintain/modernize its nuclear forces and demonstrate the political will to bear the political and economic costs of that. Don't we do that with the Stealth bomber, B-1, two types of cruise missiles, Trident I and II; possibly a Minuteman III upgrade? How much is enough, as you would say?

General SCOWCROFT. They all contribute to the sought-after solution in their own way. If they did not, there would be little reason for bearing the cost of maintaining and deploying such systems. But the key element in this regard as it relates to the MX is that we have now had four Presidents who have stated that the MX is an important if not vital element in our strategic posture.

Senator LEVIN. Don't these give us the negotiating leverage we need in Start, as mentioned in your statement?

General SCOWCROFT. All our forces provide negotiating leverage. But if the Soviets come to think we will abandon major strategic programs without their having to give up anything, we will soon lose that leverage.

Senator LEVIN. Dr. Brown, your statement says that we need to shore up the ICBM and bomber forces to insure against Soviet ASW threats "in future decades." If that is so far away, and extremely hypothetical and unlikely for probably the next 30 years according to the Navy, why not wait for the small ICBM?

Dr. BROWN. In the absence of either MX or of arms control, I do not believe that the small missile will provide nearly as significant a contribution to U.S. strategic capability. Moreover, it would be much more expensive to deploy and to operate absent such an agreement.

Senator LEVIN. You say MX deployment would end the asymmetry now where Soviets can threaten all our ICBM's while United States "has no corresponding ongoing deployment that might, by future expansion, ultimately threaten all Soviet ICBM's." Neither side is likely to permit the other to obtain such an advantage in the future. Doesn't this promise expansion of MX beyond 100? How many more do we deploy before we realize the objective is not worth pursuing with ICBM's, if at all? Doesnt' this promise of future deployments of large MIRV'd missiles also contradict the Commission's central thesis about stability?

General SCOWCROFT. No, we do not believe it is essential to match the Soviet capability weapon for weapon, but only to be able to pose a similar type threat to their own forces.

Senator LEVIN. Will the Soviets be less deterred by a Minuteman III with upgraded guidance and Mk-12A RVs and the MX with essentially equal guidance/yield RV's? Will they care which missile hits them?

General SCOWCROFT. Our capability to deter is based upon the synergistic and mutually supporting traits provided by all elements of our strategic force structure. Certainly it would make no difference to the individual if he were hit by a Minuteman III or an MX. The key differences between the two systems to remember are: (1) The MX represents the current state of technology and an open production line would provide a base from which to expand should the need arise in the future whereas the Minuteman is at the upper reaches of its capabilities and can not reasonably be expected to accept modernization beyond that which is currently planned or underway. (2) The MX represents a prompt, hard-target kill capability which the Minuteman does not. In addition, the ten warheads of the MX demonstrate to the Soviets that their large, land-based missiles are a wasting asset, encouraging them to follow us along the path toward small mobile missiles, and hence increased stability at a greatly reduced cost.

Senator LEVIN. Dr. Brown, considering all the delays in the MX program, especially in flight testing due to the Hart-Tower amendment, the IOC of MX in all likelihood has slipped well beyond December 1976, full deployment will not be complete before 1988. Even if upgrading Minuteman III takes 2–3 years longer than MX production, that puts it in the 1989 time frame.

The Commission calls for full scale engineering development of a small ICBM to begin in 1987, with IOC in the early 1990's.

Considering the late full deployment of MX, where is its great advantage in deployment time over upgrading Minuteman IIIs?

Why should we spend $14–$17 billion on a missile which will not be fully deployed until just 3–4 years before the small mobile becomes operational?

If the silos are vulnerable, the number of MX RV's surviving a Soviet first strike could be low as 50. The Soviets would have that theoretical capability without spending much more Money on their present ICBM's. We will have spent $14–$17 billion for some 50 surviving, prompt hard-target kill RV's with which to retaliate.

Why isn't that an incredible waste of money with almost no payoff? Doesn't the cost-exchange ratio overwhelmingly favor the Soviets in this case?

Dr. BROWN. Its great relative advantages lie in: (1) a significantly greater capability provided at a comparable price; (2) the establishment of a base of expansion should expansion become necessary due to failure of the arms control negotiations process, and as a lever in that process; (3) the existence of a prompt hard-target kill weapon system which will demonstrate to the Soviets that their systems are wasting assets; (4) the demonstration of consensus and cohesion in the area of national defense and security and, I would hope, foreign policy issues in the future.

We don't feel that the small mobile missile can be economically deployed without the existence of a proper arms control environment. We believe the MX missile is a crucial element in the creation of this environment.

Your question presupposes that these missiles must be launched against Soviet targets to make them cost effective. The payoff we want is national security through deterrence, not cost-effectiveness through use of the missiles.

Senator LEVIN. You say our prompt HTK "need not match that of the Soviet Union but it needs to be greater than it is today." How much of this is enough? Why should the USSR be impressed with 1900 HTK RV's (1,000 MX+900 MM–III), when they will have at least 4,500 on SS–18/19's? Don't we have enough options with the 900 Mark 12A's on our MM–III today? Couldn't we have enough by upgrading the rest of the MM–III force (+750 RV's=1650 HTK RV's)?

General SCOWCROFT. We feel that the question deserves broader treatment. "Enough" can only be determined to be that amount which appropriately accomplishes our national aims. If we could encourage the Soviets to reduce their inventory of large, land-based missiles now, I would say that we already have enough. If we can't, and we have seen that we can't, then we need to increase our capability to that level which will demonstrate to the Soviets that we are serious. We feel that about 100 MX missiles serves this purpose very well. It is sufficient to present a consolidated national front, especially considering the divisiveness of the past, yet does not exceed the bounds of self-constraint and moderation. The Minuteman might, and I emphasize might, be able to do the same thing. The problem is—if it doesn't, then what? If you have to take another step following that, what will that step be, and how will that be perceived by the Soviets and what will be the cost of each incremental step?

Senator LEVIN. General Scowcroft, much of the case you try to make for MX in silos is to give U.S. the capability to fight a limited nuclear war—or to respond as your report says, in "prompt," "controlled" and "limited" ways to Soviet attacks.

Secretary Brown, even though he supports your report, has expressed great skepticism about the likelihood that a nuclear war ever could remain "limited."

Former Chief of the Joint Chiefs of Staff, Gen. David Jones, has expressed similar skepticism. Certainly, the American people do not believe that a Nuclear war ever could stay limited. Soviet military doctrine is contradictory on this, so they too are uncertain on this.

By the time the MX would be fully deployed in silos, the 9,000 strategic warheads we have will have grown by probably several thousand warheads—assuming no START agreement. The 1,000 MX warheads added to our arsenal might well represent only a 10 percent addition to our strategic arsensal.

How can you justify to the American people that only a 10 percent addition to our arsensal is worth $17 billion for only 3 years of utility to fight a limited nuclear war no one believes is possible?

General SCOWCROFT. We propose to buy these missiles to deter nuclear war, not to fight a war of any kind, be it limited or otherwise. If we ever go so far as to be compelled to fire even one operationally, then no one can accurately predict what would happen next. But we should try to procure our forces in such a way as to avoid ever having to use that first weapon.

Senator LEVIN. What kind of compromises were made to bring the Commission to a unanimous conclusion? Was the only way to reach such an outcome to accept both MX in silos and a small ICBM in development?

General SCOWCROFT. The eleven members of this Commission, supported by the invaluable opinions of seven senior counselors, believe unanimously in the implementation of this proposed program. I feel that I speak for the Commission members as a whole and as individuals when I state that none signed onto this report in violation of his conscience or against his better judgment. Certainly there are those who favor one part of the recommendations over the others, as you would certainly expect. If this were not so, I would doubt the sincerity of the group. This is not offered as a perfect solution. If a perfect solution had existed, there would have been no reason to establish this group. We have proposed a solution which we think is viable and which, if properly implemented will engender broad bipartisan support across the political spectrum, eliminating the divisiveness which has plagued this issue over the past decade.

Chairman TOWER. The committee is adjourned.

[Whereupon, at 4:35 p.m., the committee was adjourned.]

MX MISSILE BASING SYSTEM AND RELATED ISSUES

WEDNESDAY, APRIL 20, 1983

U.S. Senate,
Committee on Armed Services,
Washington, D.C.

The committee met in open session pursuant to notice, at 10:08 a.m. in room SD-106, Dirksen Senate Office Building, Senator John Tower (chairman) presiding.

Present: Senators Tower, Warner, Cohen, Jepsen, Quayle, Wilson, Jackson, Stennis, Nunn, Exon, Levin, Kennedy, and Bingaman.

Staff present: James F. McGovern, staff director and chief counsel; James G. Roche, minority staff director; Alan R. Yuspeh, general counsel; Brenda K. Hudson, assistant chief clerk; Willis D. Smith, deputy staff director and chief scientist for the minority; Michael B. Donley, Frank J. Gaffney, David S. Lyles, and Patrick L. Renehan, professional staff members; Jacquie S. O'Grady, staff assistant; Suzanne Bantz, receptionist; Judith Freedman and Douglas R. Graham, research assistants.

Also present: Dennis P. Sharon, assistant to Senator Goldwater; John Campbell, assistant to Senator Warner; Ron Kelly, assistant to Senator Humphrey; Jim Dykstra, assistant to Senator Cohen; Jon Etherton, assistant to Senator Jepsen; Hank Steenstra, assistant to Senator Quayle; Ed McGaffigan, assistant to Senator Bingaman; Joseph Kruzel, assistant to Senator Kennedy; Arnold Punaro, assistant to Senator Nunn; Frank Sullivan, assistant to Senator Stennis; Greg Pallas, assistant to Senator Exon; Peter D. Lennon, assistant to Senator Levin; Matthew Murray, assistant to Senator Kennedy; Carol Weatherly, assistant to Senator Warner; and Bob Savitt, assistant to Senator Cohen.

OPENING STATEMENT BY SENATOR JOHN TOWER, CHAIRMAN

Chairman Tower. The committee will come to order.

The Armed Services Committee convenes this morning to take testimony from the two Cabinet officers with direct responsibility for the national security and foreign policy of the United States. In the aftermath of President Reagan's announcement yesterday about his plan for basing the MX missile in the near term and for longer range enhancement of the land-based leg of the strategic triad, it is appropriate that the committee hear from Secretary of State, George Shultz, and Secretary of Defense, Caspar Weinberger, with respect to the implications of these decisions for America's defense, foreign and arms control policies.

On Monday the Armed Services Committee reviewed with members of the President's Commission on Strategic Forces, the recommendations and findings contained in their report to the President. In some 5 hours of testimony from Gen. Brent Scowcroft, Dr. Harold Brown, Dr. James Schlesinger, and Dr. John Deutch, the Scowcroft Commission's proposals were explored in considerable detail. With the President's affirmation of the panel's report as administration policy, it is incumbent upon us now to consider the implications of such policy with those immediately charged with its execution. The session on Monday made clear it is difficult—if not impossible—to separate completely the future of MX with its past.

As members of this committee are keenly aware, the legacy of this troubled program is such that few, if any, of us involved in the protracted and contentious decisionmaking on the MX and its basing can take pride in the handling of this program by various administrations and Congresses. If anything, the MX program is a textbook case of how not to manage an important national security issue.

Certainly, no one who has stressed for years—as many of us have—the importance of reversing the growing susceptibility of our land-based ballistic missile forces to Soviet attack can take much comfort from the Scowcroft panel's recommendations concerning MX—when taken in isolation.

As the representatives of the Scowcroft panel candidly stated in their appearance before us. from a strictly military point of view, other deployment modes for the MX might be preferable.

Indeed, I am on record as having strenuously advocated the adoption of the very alternative General Scowcroft and his colleagues stated they would prefer under different circumstances. However, present circumstances being what they are, I feel compelled to concur in the bipartisan recommendations of the Scowcroft Commission, which have been adopted by the President.

I do so for reasons similar to those which influenced the Scowcroft panel's deliberations. First, I am convinced the MX is needed to redress the substantial and militarily significant imbalance in terms of prompt, hard target kill capability which has developed between the United States and Soviet strategic forces over the decade of the seventies.

Second, I feel the MX is an integral element of our negotiating leverage in arms reduction talks with the U.S.S.R.

And third, I believe the Scowcroft Commission's recommended MX program can become the cornerstone of a new national consensus on defense issues, a consensus whose emergency is indispensable both to our ability to continue to deter aggression and to realize stabilizing arms control agreements.

What is more, the proposal regarding the MX must be seen as part of a package in the full context of the Commission's other recommendations. We will be examining closely the totality of the findings and proposals of the President's Commission as endorsed by President Reagan, not simply the MX element thereof.

It is my hope that today's hearing, and those that follow, will amplify upon the mutually reinforcing qualities of the strategic forces plan now before us.

Secretary Weinberger, insofar as the MX program falls within your immediate area of responsibility, we will ask you to present the administration's proposal with respect to this weapons system. Secretary Shultz, we will then ask you to elaborate upon the consequences of this proposal for the Reagan administration's foreign policy and arms control agendas.

We will hear from both of the witnesses before we proceed to questions.

At this point let me yield to the distinguished ranking member and also the ranking member of our Strategic and Theater Nuclear Forces Subcommittee, Senator Jackson.

Senator JACKSON. Thank you, Mr. Chairman.

I regret that due to a conflict in committee meetings of importance I was not able to attend the White House meeting yesterday morning.

Mr. Chairman, I want to commend General Scowcroft and his colleagues on the bipartisan Commission for the thoughtful judgment they have brought to bear on a very difficult and persistent issue. I believe the Commission has done an able, responsible job.

We will be looking very carefully at the details of the report's recommendations, considering both their defense and budgetary implications. For now, Mr. Chairman, I want to make these brief points:

First, not only is the Commission itself a genuine bipartisan body, but it did noteworthy work in consulting with Members of the House and Senate on both sides of the aisle in advance of making its formal recommendations to the President. This reaching out across party lines and into the congressional system was a wise and very welcome development.

I especially want to commend Congressman Les Aspin, who is a member of the House Armed Services Committee and certainly is not a sycophant for the Department of Defense, for his endorsement of the basic work of the Commission. I think that gives one a feel for the way in which this Commission has functioned. Others from my party likewise provided strong support. I think there is now a reasonable chance in going forward with the Commission's recommendations.

Second, I do not dismiss the possibility that there may be some number less than the recommended 100 MX missiles that is sufficient to maintain our defense posture and yet satisfy valid budgetary considerations.

Three, the main thrust of the recommendations, by deploying some MX missiles now as well as launching a major research effort for a future small, mobile, single-warhead missile, will demonstrate to the Soviets that we have the will and determination to maintain a prudent, modernized, strategic nuclear posture.

Four, the existence of the Commission, especially its bipartisan nature, and the consensus among the American people to maintain an effective deterrent strengthen the hands of our negotiators and our President in dealing with the problems in Geneva in their indispensable efforts to achieve mutual, deep, verifiable strategic arms reductions.

Thank you.

Chairman TOWER. Thank you, Senator Jackson.

Secretary Weinberger, you may proceed as you see fit. If you have a prepared statement you would like to enter into the record and summarize it, you may. The same is true of the Secretary of State. You may proceed in any manner you see fit.

STATEMENT OF HON. CASPAR W. WEINBERGER, U.S. SECRETARY OF DEFENSE

Secretary WEINBERGER. Thank you very much, Mr. Chairman and members of the committee.

I have a longer statement which I would ask your permission to have printed in full in the record. Then I will try to summarize it far more briefly for the committee.

Chairman TOWER. It will be included in the record.

Secretary WEINBERGER. Thank you, sir.

It is a great privilege to have the opportunity to discuss the President's plan for revitalizing the land-based leg of the strategic triad, particularly before this very distinguished committee.

This is not my first visit to talk about the need to modernize our ICBM forces, nor am I the first Secretary of Defense to wrestle with this issue. I can think of few national security issues that have been so intensively and exhaustively examined by four Presidents, six Secretaries of Defense, and a majority of the members in several sessions of Congress. We have been at the drawing board a long time, and we have kept going back to it, so to speak. I think now for almost a decade.

Members of the President's Commission on Strategic Forces have done us all a great service, not just because they presented an eminently reasonable, and achievable, proposal for modernizing ICBM's. They have also reminded us throughout this period that, despite all of the discussions and controversy, that there is indeed a longstanding, bipartisan consensus about three facts. First, that the United States pursues peace and protects its freedom and the freedom of its allies through a joint strategy of deterrence and arms reductions.

Second, that deterrence depends on retaining a multiplicity, and more specifically a triad, of strong and modern strategic forces, including intercontinental ballistic missiles.

And third, that in view of actions taken by the Soviet Union over the last decade and a half, we must take steps now to insure the effectiveness of that triad and in so doing not only maintain deterrence but also improve the prospects for genuine, mutual, and significant reductions in nuclear weapons.

I think these three points are all very important, because they lie at the heart of why we must modernize the ICMB force.

Since the end of World War II and the dawn of the atomic age, the United States has maintained peace and preserved its freedom, and that of its allies, by means of deterring aggression. A policy of deterrence and the strategic capability to back it up, serves as a clear indication to potential aggressors that the West has the will, means necessary, and the capability to resist aggression and by maintaining the ability to retaliate against a potential aggressor in such a manner that the costs we will exact will exceed substantially any gains he might hope to achieve through aggression. We have thus far been able to prevent any aggressor from coming to believe he could profit from, or win a nuclear war.

CONSEQUENCES OF A NUCLEAR WAR

We for our part, are under no illusions about the consequences of nuclear war, Mr. Chairman. We know there would be no winners in such an exchange. But this recognition on our part is not enough to maintain deterrence. The Soviet leadership must also understand this as well and, as the Commission's report so ably puts it:

> **Deterrence is the set of beliefs in the minds of the Soviet leaders, given their own values and attitudes, about our capabilities and our will. It requires us to determine, as best we can, what would deter them from considering aggression, even in a crisis, not to determine what would deter us.**

Now, the triad of strategic forces is displayed on the chart. To deter that Soviet aggression, we have maintained over the last two decades a strong and interdependent combination of strategic forces known as the triad, which consists of land-based intercontinental ballistic missiles, sea-based ballistic missiles, and manned strategic bombers. This multiplicity of forces provides three significant benefits:

First, each of the strategic components of the triad acts in concert with the others to complicate Soviet planning, making it more difficult for the Soviet Union not only to plan and execute a successful attack but also to defend against retaliation.

Second, each of the legs of the triad acts as a hedge against the possible technological breakthrough that could threaten the viability of any single strategic system. By maintaining a triad we force the Soviet Union to disperse their resources among three components, preventing them from concentrating their considerable resources on defeating two or only one United States strategic systems.

Finally, only a triad of three unique systems can provide us with all the elements necessary to provide a strong, secure deterrent. The strengths of each system not only complement the strengths of the other two but also compensate for their weaknesses. To deter successfully all types of nuclear attack, our forces as a whole must possess a number of characteristics and capabilities—including survivability, prompt response, mission flexibility, and sufficient accuracy and warhead yield to retaliate against vastly hardened Soviet military targets. No single weapons system can incorporate all of these capabilities and, as the Commission correctly points out, Mr. Chairman, one of the problems has been the search for the perfect system in each of these three legs of the triad. Submarines are less vulnerable, but they are also less accurate, and they are at all times difficult to maintain communications with. Bombers are accurate, and retrievable, but they are much less responsive. ICBM's are easier to command and control, faster, and more accurate, but they are more vulnerable than submarines and, once launched are irretrievable. But all three systems together can incorporate all of those elements necessary to deter against all types of attack.

For many years it was our good fortune to possess a triad whose effectiveness could be assured well into the future. Unhappy, due to the massive, and largely unmatched, strategic buildup that the Soviets have sustained since the 1960's, I must say, aided enormously by technology they have taken from us—those days are gone. That buildup has created substantial vulnerabilities in our strategic triad which in turn has altered the strategic balance and reduced the effectiveness of retaliatory forces and thus weakened our ability to deter war.

RESTORING STRATEGIC BALANCE

In recognition of this the President has initiated, and the Congress has supported, over the past 2 years a number of programs to restore the strategic balance and the effectiveness of our forces. We have begun and are continuing to modernize and improve the sea- and air-based legs of the triad, and I am very pleased that the Commission has specifically stated that there should be no change in those programs or their progress.

But one very serious weakness in our triad has yet to be resolved—the modernization of the ICBM force. That modernization depicted on the chart requires maintaining an effective land-based leg of the triad. That is extremely important for two reasons:

First, ICBM's possess several unique characteristics not found in other legs. It has extremely high peacetime readiness capability. It is nearly 100 percent ready all of the time, and that discourages surprise attack. It has repid and reliable communications with command authorities, and prompt counterforce military capability, which frustrates Soviet war-fighting strategy. It also has the lowest operation and support cost of the strategic forces, which allows for much greater resource efficiency. Those are all set forth on the chart.

In addition, it provides a third type of weapons system which, in combination with the other two, complicates the Soviet planning and prevents Soviet concentration of resources.

If we do not modernize the land-based leg of our triad now, we will not only forgo these unique capabilities to the ICBM, but we will also undercut the deterrent capability of the triad as a whole. Furthermore, we will have failed to compensate for the Soviet monopoly of prompt hard target kill capability which they now have and which lies at the heart of the current United States-Soviet strategic force imbalance.

The President's proposal is one which was preceded by a number of other proposals. Several administrations over the years have recognized the necessity, indeed the requirement, to modernize the land-based forces. Although we frequently have embraced different solutions to this problem, we all, nevertheless, shared the belief that if we looked long and hard enough, we would find a single perfect solution.

By now I think it is clear that there is no one single, perfect, solution possible. This is due largely to the accuracy and yield of the Soviet missiles, again, as I said, made possible by the taking in one way or another of our technology.

The President's Commission has done us a second great service. They have recognized that no one weapons system would be able to solve all of our problems and meet all of our requirements for the near and longer term. The President's proposal for modernizing the land-based leg of the triad, which the Commission has recommended, and which the Joint Chiefs of Staff and I fully endorse, consists of a two-phased solution which would not only restore the overall strategic balance but solve the problems of retaliatory effectiveness and survivability.

PEACEKEEPER MISSILES IN MINUTEMAN SILOS

The plan calls for a limited deployment of 100 Peacekeeper missiles deployed in Minuteman silos, which will restore far more quickly than with any other solution, our retaliatory capability necessary to maintain deterrence. It will not provide the degree of ICBM survivability we will ultimately require or that all of us would want. However, for the near term, we must rely on the interaction of the triad legs to provide some degree of ICBM survivability. The point here, to quote the Commission's report once again, is that "whereas it is highly desirable that each component of the strategic forces be survivable when it is viewed separately, it makes a major contribution to deterrence even if this survivability depends in a substantial measure on the existence of one of the other components of the force."

With respect to the longer term, the President's ICBM modernization plan will achieve survivability through an extended, two-step process: development of a new small missile, and research and development on mobility silo-hardening, ballistic missile defense, and deep underground basing.

We will pursue all of these phases during the course of the next few years if the President's program is adopted. In seeking the two-phased approach of Peacekeeper deployment in Minuteman silos and development of the small missile, it will strengthen the triad both in the near and longer term, and in so doing will restore the strategic balance and enhance our ability to deter war now and in the future.

Mr. Chairman and members, the most important part of the President's modernization proposal is that it has the equally important effect of providing the Soviets with the incentives they need to agree to deep, balanced, mutual, and verifiable arms reductions, the kind Senator Jackson spoke of just a moment ago.

As you are all aware, the President has proposed to the Soviet Union that we reduce dramatically the overall size of both sides' ballistic missile arsenals. Whether the President's proposal is successful will in large measure depend upon whether the Soviet leaders believe we are determined to maintain an effective deterrent capability in the face of their massive strategic buildup.

If they believe our current round of debates will not produce future deployments but only further debates, they would have no incentive to negotiate reductions. Rather, they would simply continue with their policy of seeking unilateral strategic advantage through continued deployment of ever more powerful weapons in ever greater numbers.

I think we have learned the hard way that the Soviet Union is impressed not by self-restraint, which we have tried, but by determination. As I believe a Soviet negotiator once said to you, Mr. Chairman, in response to your question of why they did not give up something in return for our cancellation of the B-1 bomber, they said they are neither philanthropists nor pacifists.

ICBM MODERNIZATION PLAN

Let me make one final point about the centrality of our ICBM modernization plan to arms control. The administration has sought to move away from arms control agreements that confine their restrictions to such limited measures of strategic capabilities as launchers and missiles and emphasized instead those elements of strategic capability that threaten to upset stability. In this connection, I was pleased to note that the Commission report echoed this administration's focus on warhead and throw-weight reductions in the START negotiations.

The President's modernization plan supports this concern with stability by holding out the promise, over the long term, of channeling ICBM forces into more stable directions. Such stability can be enhanced by deployments that distribute the total number of warheads contained in the ICBM forces over a larger number of smaller missiles, thereby reducing the target value of individual ICBM's. In reducing the value of individual strategic assets, we reduce the attack incentive of a potential aggressor. If this promise is to be realized, we must pursue the two-step process provided in the President's plan.

In conclusion, I would like to say that the report issued by the President's Commission reflects the dedication and patriotism with which this bipartisan group of very distinguished Americans responded to the task given them. I would like to quote from the end of their report:

> If we can begin to see ourselves, in dealing with these issues, not as political partisans or as crusaders for one specific solution to a part of this complex set of problems, but rather as citizens of a great nation with the humbling obligation to persevere in the long-run task of preserving both peace and liberty for the world, a common perspectivve may finally be found.

Thank you very much, sir.

[The prepared statement of Secretary Weinberger follows:]

PREPARED STATEMENT OF CASPAR W. WEINBERGER, SECRETARY OF DEFENSE

Mr. Chairman, thank you for this opportunity to discuss the President's plan for revitalizing the ICBM leg of our strategic Triad.

This is not my first visit to talk about the need to update our ICBM forces. Nor am I the first Secretary of Defense to raise these issues before this distinguished committee. Four Presidents, six Secretaries of Defense, and a majority of the members in several sessions of Congress all have concluded that we need to modernize our ICBM force.

The members of the President's Commission on Strategic Forces have done us all a great service, and not just because they have presented an eminently reasonable, and achievable, proposal for modernizing our ICBMs. They have also reminded us that there is a long-standing, bipartisan consensus about three facts. First, that the United States pursues peace and protects its freedom and the freedom of its allies through a joint strategy of deterrence and arms control. Second, that deterrence depends on retaining a multiplicity, and more specifically a Triad, of strategic forces, including intercontinental ballistic missiles. And third, that in view of actions taken by the Soviet Union over the last decade and a half, we must take steps now to ensure the effectiveness of that Triad and in so doing not only maintain deterrence but also improve the prospects for genuine, mutual, and significant reductions in nuclear weapons.

Before discussing the President's recommendation for modernizing the ICBM force, let me review the reasoning that lies behind this consensus about American strategic policy.

Since the end of World War II and the dawn of the atomic age, the United States has maintained peace and preserved its freedom, and that of its allies, by means of an inherently defensive policy—deterrence. This policy, and the strategic capability to back it up, serves as a clear indication to potential aggressors that the West has the will and the means necessary to resist aggression. By maintaining the ability to retaliate against a potential aggressor in such a manner that the costs we will exact will exceed substantially any gains he might hope to achieve throught aggression, we can prevent any aggressor from coming to believe that he could profit from or win a nuclear war.

We, for our part, are under no illusions about the consequences of nuclear war. We know there would be no winners in such an exchange. But this recognition on our part is not enough to maintain deterrence. The Soviet leadership must understand this as well. The President's Commission on Strategic Forces made this point eloquently in their report.

> Deterrence is not an abstract notion amenable to simple quantification. Still less is it a mirror image of what would deter ourselves. Deterrence is the set of beliefs in the minds of the Soviet leaders, given their own values

and attitudes, about our capabilities and our will. It requires us to determine, as best we can, what would deter them from considering aggression, even in a crisis—not to determine what would deter us.

Unlike the United States, the Soviet Union seems to believe that under certain circumstances a nuclear war could be fought and won. Today we see that the number, the explosive power, and the accuracy of Soviet nuclear weapons are far greater than would be needed simply to deter attack. In addition, the Soviets have developed a refiring capability for some of their larger ICBMs, which could allow them to reload their delivery systems several times. They have given us indications that they think they could fight a protracted war by hardening their silos and protecting key targets with elaborate air defenses. Their writings, military doctrine, and exercises all emphasize the kind of nuclear warfighting policy we in the United States have rejected—and which we must deter. We must, therefore, make sure that the Soviet leadership, in calculating the risks of aggression, recognizes that an effective American response exists, and understands that, consequently there can be no circumstance where the initiation of a war at any level would make sense.

To this end, we have maintained over the last two decades a strong and interdependent force, known as the Triad, which consists of land-based intercontinental ballistic missiles, sea-based ballistic missiles, and manned strategic bombers. This multiplicity of forces provides three significant benefits.

First, each of the strategic components of the triad acts in concert with the others to complicate Soviet planning, making it more difficult for the Soviet Union not only to plan and execute a successful attack but also to defend against retaliation.

Second, each of the legs of the Triad acts as a hedge against a possible technological break-through that could threaten the viability of any single strategic system. By maintaining a Triad we force the Soviet Union to disperse their resources among three components, preventing them from concentrating their considerable resources on defeating two or only one U.S. strategic system.

Finally, only a Triad of three unique systems can provide us with all the elements necessary to provide a strong, secure deterrent. The strengths of each system not only complement the strengths of the other two but also compensate for their weaknesses. To deter successfully all types of nuclear attack, our forces as a whole must possess a number of characteristics and capabilities—including survivability, prompt response, mission flexibility and sufficient accuracy and warhead yield to retaliate against hardened Soviet military targets. No single weapons system can incorporate all of these capabilities. Submarines are less vulnerable, but less accurate. Bombers are accurate, and retrievable, but are much slower. ICBMs are easier to command and control, faster, and more accurate, but they are more vulnerable than submarines and, once launched, irretrievable. But all three systems together can incorpoate all those elementts necessary to deter against all types of attack.

For many years it was our good fortune to possess a Triad whose effectiveness could be assured well into the future. Unhappily, due to the massive, and largely unmatched, strategic build up that the Soviets have sustained since the 1960s, those days are gone. That build up has created substantial vulnerabilities in our strategic Triad which in turn have altered the strategic balance and reduced the effectiveness of our deterrent capability.

Over the past 2 years the President has instituted, and the Congress has supported, a number of initiatives to rectify the Triad deficiencies this build up has created, including production of the Trident submarine and development of a new, more capable SLBM, the D-5; production of the air-launched cruise missile, development of the B-1B and "Stealth" bombers; improvements in the U.S.-Canadian Air Defense network; and improvements in the effectiveness and reliability of our command, control, communications and attack warning capabilities. I know this committee shares our conviction that such a strategic modernization program is vital to preserving deterrence and enhancing the prospects for arms reduction.

But one very serious weakness in our Triad has yet to be resolved—the modernization of the ICBM force. The United States made a conscious choice during the 1970s to restrict its nuclear weapons developments so as not to present the Soviet Union with a first strike threat. However, the Soviets showed no such restraint. During the 1970s the Soviet Union deployed more than 600 powerful SS-18 and SS-19 ICBMs with nearly 5,000 highly accurate warheads; at the same time they hardened their missile silos and key command and control facilities to resist attack. These Soviet developments have simultaneously endangered the survivability of our ICBM force, and substantially reduced the retaliatory effectiveness which lies at the heart of our strategy of deterrence.

Without a viable ICBM force our Triad would lose several qualities that are crucial to deterrence: extremely high peacetime readiness rates, rapid and reliable communications with command authorities, and prompt counter military capability.

But, even more important, indeed at the heart of the current U.S.-Soviet strategic force imbalance, is the Soviet monopoly of prompt hard target kill capability. This gives them a twofold advantage over the United States. First, it enables the Soviets to launch a very high confidence first strike attack on our land-based ICBM, while expending only one third of their ICBM force in the process. The large store of remaining ICBMs would then enable them to divert weapons to other essential targets in a first-strike attack and still maintain a large and effective reserve force to conduct follow-on attacks. Second, the fact that we lack a prompt retaliatory capability against very hard targets allows Soviet planners to consider the possibility that, for the crucial first few hours of a nucelar conflict, the bulk of their ICBM force and supporting command and control structure would remain largely immune to U.S. retaliation. This would eliminate one of the major sources of uncertainty that is such an important element of deterrence—the unpredictable effects of U.S. retaliation on Soviet war plans. Without this crucial uncertainty exerting an influence on Soviet war planners, their confidence in their ability to fight and win a nuclear war is reinforced.

This development is too dangerous to be allowed to continue unchallenged. If we do nothing, we will face the very real danger that the Soviets could at some point come to believe that they could use, or blackmail us by threatening to use, nuclear forces to gain their military or political ends.

Because the problems of the ICBM leg of the Triad are essentially two-fold—retaliatory effectiveness and survivability—we must seek a solution that answers both concerns. Last November the Administration recommended deploying the Peacekeeper missile in a closely spaced basing mode, which would take advantage of the fratricide phenomenon produced by attacks on closely spaced super-hardened ICBM silos. Congress, as you know, directed us to study further the question of basing and deployment. To fulfill this requirement, the President established an independent, bipartisan Commission on Strategic Forces made up of distinguished experts and former Government officials and chaired by former National Security Advisor, Brent Scowcroft. The President directed the Commission to examine the broad range of strategic modernization issues including basing alternatives to CSB, ICBM alternatives to the Peacekeeper, and air- and sea-based alternatives to a modernized land-based ICBM force. Over the last several months the Commission thoroughly studied these alternatives and last week presented its report to the President; a report that, I think all will agree, equals in every respect the expectations of excellence that such a distinguished body of experts naturally engenders. It is a report that has won the strong support of the President, his National Security Advisor, the Joint Chiefs and me. In addition to endorsing the President's strategic modernization program, the report addresses the two weaknesses of the ICBM leg in a phased approach.

To solve the problem of retaliatory effectiveness the plan calls for a limited deployment of 100 Peacekeeper missiles in Minuteman silos which will reestablish the hard target capability necessary to maintain deterrence. By deploying the Peacekeeper missile we will immensely complicate any attack the Soviets might plan and, by threatening their remaining ICBM force, decrease their confidence that an attack might succeed. As the President's Commission points out "Soviet planners would have to account for the possibility that Peacekeeper missiles would be available for use and thus they would help deter such attacks." Thus the lack of retaliatory effectiveness in our current ICBM force is a relatively easy weakness to overcome and the Peacekeeper can begin to accomplish this in 1986 and finish the job in 1989.

The President's modernization plan also spells out an approach to enhancing survivability. However, because this aspect of the problem is more complicated, the solution is necessarily more difficult. I can think of few national security issues that have been so intensively and exhaustively examined as Peacekeeper basing. The search for a survivable basing mode has preoccupied political leaders of both parties, as well as the American people for nearly a decade. Although we frequently have embraced different solutions to this problem, we all, nevertheless, shared the belief that if we looked long and hard enough, a single, perfect solution would be revealed.

By now it is clear that this was an illusion. As the Commission noted, "... by trying to solve all ICBM tasks with a single weapon and a single basing mode in the fact of the trends in technology, we have made the problem of modernizing the ICBM force so complex as to be virtually insoluble." Or, in the words of Voltaire, sometimes, "... the best is the enemy of the good."

With the Peacekeeper missile deployed in Minuteman silos, we will restore our retaliatory capability. However, for the near term, we must rely on the interaction of the TRIAD legs to provide some degree of ICBM survivability. The point here, to quote the Commission report once again, is that "whereas it is highly desirable that each component of the strategic forces be survivable when it is viewed separately, it makes a major contribution to deterrence even if this survivability depends in a substantial measure on the existence of one of the other components of the force." With respect to the longer-term, the President's ICBM modernization plan will achieve survivability through an extended, two-step process: development of a new small missile, and research and development on mobility, silo hardening, ballistic missile defense, and deep underground basing.

Just as there are significant advantages to diversity among the Triad forces, there might also be significant advantages to diversity within the ICBM force. By deploying different types of ICBMs—each with different capabilities—and basing them in dissimilar configurations, the independent survivability of the ICBM force as a whole might be dramatically improved, while its flexibility is increased.

Specifically, by deploying the Peacekeeper we will quickly provide the ICBM force with the retaliatory hard target capability necessary to maintain deterrence. The Peacekeeper's throw-weight also gives us sufficient payload flexibility to maintain retaliatory effectiveness even if the Soviets were to harden their strategic assets even further, or violate the ABM Treaty by rapidly and massively increasing their ballistic missile defense deployments. By deploying a new small missile we would add to the flexibility and overall capability of the ICBM force while providing basing options, such as mobility, that are not feasible with larger missiles. And by deploying the ICBM force in a range of dissimilar basing modes, we improve the survivability of our entire ICBM force by driving the Soviet offensive force structure in opposite and counterproductive directions. That is, a force structure designed to effectively attack one type of basing mode may be ill suited to attack a different basing mode.

As mentioned earlier, the President's plan includes vigorous research on new techniques for hardening silos and shelters, on different types of land-based vehicles and launchers, including hardened vehicles, on ballistic missile defense and deep underground basing, and on the phenomenon of fratricide, that is, destruction of an attacking warhead by the explosive effects of another. By supporting such diversity, the President's plan retains—and even enhances—our options for a changing strategic environment.

But the impact of the President's ICBM modernization plan extends beyond the world of nuclear deterrence. It also will have a significant impact on our ability to meet our commitments to our friends and allies. One important effect could be on the essential NATO INF modernization program. Scheduled to begin late this year, this program is necessary to counter the growing European strategic imbalance resulting from the persistent Soviet build up of its SS-20 intermediate range missile force. Many of our NATO allies are watching the decision on the deployment of the Peacekeeper very closely. Deployment of a modern land-based missile system in this country is necessary to maintain the effectiveness of the U.S. strategic deterrent, just as ending the present imbalance in Europe—either through arms reduction or deployment of modern intermediate range nuclear forces in Europe—is essential to keeping our allies securely linked to the U.S. strategic umbrella. Failure to deploy Peacekeeper could not only undercut the ability of key allied governments to muster and hold the political support necessary to back Pershing II and ground-launched cruise missile deployments in their countries but also be seen as undercutting America's nuclear umbrella for NATO.

But the President's plan also has a wider, more long-term impact. The peacetime, day-to-day, decisions that collectively make up the behavior of the United States, the Soviet Union and all other nations are influenced by perceptions of the U.S.-Soviet strategic balance. The greater the imbalance, the more conscious we become of the limits to our options in international affairs and the greater the chance that we might be forced to compromise our interests to avoid crises that might overburden our capacity to deter conflict. In the same vein, the greater the imbalance, the greater the tendency of the Soviet Union to embrace ever more ambitious definitions of what constitute legitimate Soviet interests; the greater their tendency to view he risks of crises as an acceptable price to pay for the satisfaction of their political aims. The behavior of other nations is affected by perceptions of the strategic balance too. The greater the imbalance, the greater the tendency to view Soviet aims as interests to be accommodated; the greater, also, their tendency to view U.S. aims as interests to be ignored or challenged.

Today, we are confronted with just such a strategic imbalance; and imbalance that, in the face of the continued enhancement of Soviet power, will only worsen if we do nothing to counter it. There are many things we can do to reestablish a strategic balance, some of which, as I mentioned eariler, we are doing already. However, if we do not modernize the ICBM leg of the Triad, and maintain those important capabilities unique to the ICBM, restoration of a strategic balance will not be possible. As my predecessor, Harold Brown, wrote recently: " . . . . we said in the early 1970's that we would modernize with a new missile in the late 1970's. In the mid-1970's we said that we would do so in the early 1980's, and in the late 1970's that we would in the mid-1980's. We have failed so far to do any of those things, even while the Soviets were deploying over 600 new ICBMs, each with a payload equal to or greater than that of MX, and with accuracies now matching those of the most accurate U.S. ICBMs.

To say that the United States will modernize in the early 1990's with a small single-warhead missile will just not be believable. The Soviets would be justified in calculating that any new U.S. ICBM system will be aborted by some combination of environmental, doctrinal, fiscal, and political problems."

Finally, there is the important consideration of arms control. While a strong and viable deterrent is essential to the maintenance of peace, our search for a durable foundation that can support a lasting peace must also incorporate significant and verifiable reductions in the size and destructive potential of existing nuclear arsenals. The President's ICBM modernization plan is fully consistent with, in fact, necessary to, such arms reductions. As you are all aware, the President has proposed a strategic arms reduction proposal, START, which would reduce by one third the overall size of both sides' deployed ballistic missile warheads, with even greater reductions in those weapons systems that are potentially the most destabilizing—land-based ballistic missiles. Whether the President's START proposal is successful will, in large measure, depend on Soviet perceptions of the nation's determination to maintain its deterrent capability in the face of the persistent growth of Soviet military power. Because the ICBM modernization plan is essential to our deterrence capability, the Soviets will undoubtedly perceive this nation's decision on whether to support it a litmus test of the extent of that determination.

If the American people and its Congress give their support, the Soviet Union will come to the realization that the United States understands the current strategic realities and fully intends to meet the national security obligations these realities impose. By reinforcing this perception of American determination, vigorous ICBM modernization will discourage the notion that a continuation of the Soviet arms build up will afford the Soviet Union any strategic advantage and encourage Soviet cooperation in bringing strategic arms under control. Conversely, failure to modernize will serve only to foster a Soviet belief in the soundness of their policy of seeking unilateral strategic advantage through the continued deployment of ever more powerful weapons in ever greater numbers.

Until this issue is clearly resolved in favor of a modernized ICBM force, we can expect little cooperation from the Soviet Union in Geneva. We have learned the hard way that the Soviet Union is impressed not by self-restraint, but by determination. For the first time they have proved willing to sit down at the negotiating table to discuss arms reduction; let us give them the incentive to stay there and reach fair, equitable, and verifiable agreements.

Let me make one final point about the centrality of our ICBM modernization plan to arms control. This Administration has sought to move away from arms control agreements that confine their restrictions to such limited measures of strategic capability as launchers and missiles, and emphasized instead those elements of strategic capability that threaten to upset stability. In this connection, I was pleased to note that the Commission report echoed this Administration's focus on warhead and throw-weight reductions in the START negotiations.

The President's modernization plan supports this concern with stability by holding out the promise, over the long-term, of channeling ICBM forces into more stable directions. Such stability can be enhanced by deployments that distribute the total number of warheads contained in the ICBM forces over a larger number of smaller missiles, thereby reducing the target value of individual ICBMs. In reducing the value of individual strategic assets, we reduce the attack incentive of a potential aggressor. If this promise is to be realized, we must pursue the two-step process provided by the President's plan.

First, we must deploy the Peacekeeper missile to end the current, destabilizing advantage the Soviet Union enjoys in critical prompt hard target capability. The Soviets will not voluntarily give up their current strategic advantage. If we do not take this first step, they will have no incentive to move toward ICBM deployments that are more stabilizing. Deployment of the Peacekeeper will act as a necessary foundation and catalyst for a restructuring of U.S. and Soviet ICBM forces.

Second, we must vigorously pursue small, single warhead missile technology and operational concepts to determine the technical, operational and fiscal feasibility of moving to an ICBM structure that increases the emphasis on the deployment of ICBMs that individually are of less value as targets.

Th report issued by the President's Commission reflects the dedication and patriotism with which this bipartisan group of distinguished Americans responded to the task given them. Let me end, then, by quoting from the end of their report:

> If we can begin to see ourselves, in dealing with these issue, not as political partisans or as crusaders for one specific solution to a part of this complex set of problems, but rather as citizens of a great nation with the humbling obligation to persevere in the long-run task of preserving both peace and liberty for the world, a common perspective may finally be found.

Chairman Tower. Thank you, Mr. Secretary.

Secretary Shultz?

STATEMENT OF HON. GEORGE SHULTZ, U.S. SECRETARY OF STATE

Secretary Shultz. Thank you. Mr. Chairman, distinguished members of this committee.

I am very pleased to have a chance to be here, along with Secretary Weinberger, to explain the importance of the President's proposals for modernizing our strategic forces.

First of all, I want to say, and join others, that we all owe a great debt to Brent Scowcroft and his colleagues on the President's Commission on Strategic Forces. They have given us a thorough, thoughtful, and invaluable analysis.

They brought to their task expertise and experience. They also brought with them the conviction that a matter so fundamental as our strategic forces, the backbone of our military strength, must be addressed in a spirit of bipartisan cooperation. I think there is a lesson, as Senator Jackson pointed out, here for all of us.

The question of how to modernize our strategic forces has been hotly debated for years now. The time has come to resolve it. As the Commission has shown us, it can only be accomplished if Americans of both parties work together with the attitude that we are partners in a common enterprise. I know President Reagan is eager to work with the Congress in that spirit.

I defer to Secretary Weinberger on the military considerations that underlie the President's program. I want to address myself, as you suggested, Mr. Chairman, to two key points:

First, modernization of our strategic forces, and in particular of our ICBM forces, is of critical importance to our foreign policy;

And second, the President's program is not only consistent with, but indeed advances, the important national objective of strategic arms control and reduction.

FOREIGN POLICY AND THE STRATEGIC BALANCE

The central goal of our national security policy is deterrence of war and maintenance of the strategic balance is a necessary condition for that deterrence. But the strategic balance also shapes to an important degree the global environment in which the United States pursues its foreign policy objectives. Therefore, decisions on major strategic weapons systems can have profound political as well as military consequences.

As Secretary of State, I am acutely conscious of the strength or weakness of American power, because it has a direct impact on our ability to achieve our goals. As a crucial determinant of relative strength, the strategic balance is a key indicator of relative influence.

Perceptions of the strategic balance are bound to influence the judgments not only of our adversaries, but also of our allies and friends around the world who rely on us. As leader of the democratic nations, we have an inescapable responsibility to maintain this pillar of the military balance, which only we can maintain.

Our determination to do so is an important signal of our resolve. Our performance of this responsibility is absolutely essential to sustaining the confidence of allies and friends and maintaining the cohesion of our alliances.

For the first two decades of the postwar period, our allies in the Atlantic Community, Japan and elsewhere could count on our unquestioned strategic superiority. The longstanding Soviet superiority in conventional forces on the Eurasian land mass was offset by superior American strategic power as the guarantee of our allies' security.

The massive growth of the Soviet strategic arsenal and our unilateral self-restraint in the sixties and seventies have altered this situation. We no longer possess the strategic advantage we once had, and indeed we face significant weaknesses in several areas of strategic weaponry.

This shift in the strategic balance makes it more important for us and our allies to address the problem of conventional and regional imbalances while doing whatever is necessary to restore strategic stability.

The Soviet Union has also expanded its conventional forces and its global reach at a rapid rate in tandem with its nuclear buildup. Our vulnerability in many regions of the world such as the Persian Gulf is apparent, as is the impressive growth of the Soviets' ability to project power worldwide.

This development is even more sobering given the increasing proclivity of the Soviets since the mid-1970's to use their forces and those of their proxies, in Angola, Ethiopia, Kampuchea, and Afghanistan, as well as to threaten their neighbors, as in Poland, or to try to subvert our neighbors, as in Central America.

My concern is that the growth of Soviet strategic power can therefore have an important effect on the Soviets' willingness to run risks in a regional conflict or crisis. Correspondingly, it makes our response more difficult.

In the Cuban missile crisis in 1962 and in the Middle East alert in 1973, American strategic power was an important element in denying the Soviet Union any credible option to escalate beyond the local level. In the Cuban case, we possessed an overwhelming strategic as well as local superiority. In the case of the 1973 alert, we still had some advantage.

I do not want to see the day come when, in a replay of the Cuban crisis or Middle East alert, the numbers and the results are reversed.

The Peacekeeper ICBM has a direct relevance to this problem of Soviet risk-taking. If the Soviets can strike effectively at our land-based ICBM's while our land-based deterrent does not have comparable capability, the Soviets might believe they have a significant advantage in a crucial dimension of the strategic balance. They could seek to gain political leverage by a threat of nuclear blackmail.

Without arguing the question of whether the Soviets are prepared to launch a nuclear first strike, such a crucial imbalance in strategic capabilities could well make them bolder in a regional conflict or in a major crisis.

For these reasons, Mr. Chairman, I believe our foreign policy—and our ability to defend our interests and our most cherished values—would be critically strengthened if the Congress gives strong backing to the program the President outlined yesterday.

Modernization of our strategic deterrent and of our land-based ICBM force in particular is essential to the goal he stated, that of "preventing conflict, reducing the risks of war, and safeguarding the peace." That is why the Peacekeeper program is so important. It will demonstrate our commitment to maintaining the strategic balance and to maintaining the credibility of our land-based strategic forces.

It will enhance our capacity to deter nuclear war and significant conventional attack or the threat of either. It will strengthen our commitment to the security of the United States and its allies and friends. It will also increase Moscow's incentive to negotiate seriously in START and other arms-reduction talks.

ARMS REDUCTIONS AND THE STRATEGIC BALANCE

Let me say more on that subject. I know that the Congress and all Americans share our hopes that arms-control negotiations with the Soviet Union will bring about a significant reduction of nuclear arsenals and a significant evening of the dangers of nuclear war. Strategic arms control has been a subject of major controversy and concern for well over a decade.

If we have learned anything from those debates and negotiations, we should have learned this fundamental truth. The process of strategic arms control depends absolutely on the demonstrated ability of the United States to maintain the strategic balance. This, in turn, depends, as it always has, on maintaining a modern, capable triad of strategic forces.

The Peacekeeper ICBM is a critical component of that modernized triad. The Peacekeeper represents the response which every administration since that of President Nixon has believed necessary to offset at least partially the formidable Soviet ICBM arsenal. In this profoundly simple sense, a new missile like the Peacekeeper is not only consistent with strategic arms control but it is an essential element of the process.

From the standpoint of the SALT II Treaty, that treaty was premised on the existence of the Peacekeeper, or MX, as it was then called. From the standpoint of the negotiations in which we are engaged today—not only to limit strategic arms but to reduce them—it is even more important to maintain the balance.

I know from personal experience that the Soviets are tough bargainers, as we are and must be as well. They make no compromises for free, nor should we. Only if they see the United States determined to modernize our strategic forces will they have an incentive to negotiate a verifiable agreement establishing equal or lower levels. Only if they see no possibility of achieving superiority will they accede to real arms reductions based on equality.

The Peacekeeper is fully consistent with all the specific provisions of existing SALT agreements. Deploying 100 of the new missiles in existing Minuteman silos, as the President proposes, will involve no construction of new fixed launchers, no increase in silo volume, and no increase in MIRVed ICBM launchers. Moreover, the limited number is obviously far too few to be destabilizing.

NEW SMALL ICBM

Questions have been asked, I know, about the new small ICBM proposed by the Scowcroft Commission and the President. Some have wondered how this is consistent with either SALT II or a possible START agreement. The SALT II Treaty would have permitted deployment of no more than one ICBM on each side. On our side the new missile would be the Peacekeeper, but that treaty, even if it had been ratified, would have expired at the end of 1985.

The President's proposal calls for the start of engineering development of a possible new small ICBM. No deployment could be possible until after 1990, long after the SALT II time period had expired and long before that time we would hope that a START agreement will have established a new regime for maintaining a stable strategic balance.

Beyond this, the new small missile, if it proves feasible, would have broader positive implications for arms control. It would enhance stability, which has always been a central objective of arms control since the process began. Secretary Weinberger has explained it may move the evolution of strategic systems in a stabilizing direction over the long term.

Our START proposals can be flexible enough to accommodate this small missile. There is on guarantee that a restructuring of United States and Soviet forces will take place in the near future, but time may well give both sides incentive to move in this direction. The United States-Soviet strategic competition will continue into the long-term future, but we can make an historical decision now that can shape the strategic relationship in a positive way for decades to come.

To sum up, Mr. Chairman, as Secretary of State I can only share with the Secretary of Defense the conviction that modernization of our strategic forces is a matter of the highest priority. A credible, flexible strategic force is not only vital to the balance of power but is the essential foundation of our role as leader and defender of free nations.

The fundamental goal of nuclear deterrence depends upon it. Our goal of deterring nonnuclear war or nuclear blackmail also depends upon it. The Peacekeeper missile is indispensible to our near-term goals of restoring the strategic balance, deterring challenges, and providing an incentive to the Soviets for serious negotiations on arms reductions.

Research and possible development of a small ICBM may enhance strategic stability into the next century. As the Scowcroft Commission stressed, neither of the two systems can insure security alone. They are complementary. Strength and peace are also complementary. Both must be pursued with determination and with that determination both can be achieved.

I thank you, Mr. Chairman.

Chairman TOWER. Thank you very much, Mr. Secretary. We will now enter into our question period with questions of members limited to 10 minutes each.

Secretary Shultz, could you comment on the direct or indirect impact specifically of our actions on the President's recommendation pursuant to the Commission's report on our intermediate nuclear force negotiations in Geneva and our mutual and balanced force reductions negotiations in Vienna?

Secretary SHULTZ. I think there is quite an obvious relationship, even though it is indirect because the exhibition of our own resolve is on display before everyone—our friends and adversaries alike. The allies in Europe will look to see what we will be doing with the Peacekeeper, just as we work with them on deployment of the Pershing II's and the ground-launched cruise missiles.

So I think there is a direct relationship of attitudes and obviously I think a direct impact on Soviet attitudes and their estimate of what we are able and willing to do, and I think the same carries over into the Vienna and MBFR talks.

Chairman TOWER. The next question I would like you to comment on first, Secretary Shultz, and then I would like Secretary Weinberger's comment on it from his perspective.

The Commission recommended a shift in our negotiating strategy from limitation and reduction of launchers to reductions and limitations on throw weight and warheads. Now without asking you to enunciate policy on that recommendation for the moment, I would be interested to know how you view that proposal, Secretary Shultz, and how you view it, Secretary Weinberger, from the military perspective.

Secretary **Shultz**. I think since it is basically consistent with the approach the President has taken, obviously we welcome this emphasis, and I think that it clearly is a good emphasis and it is a matter in terms of strategic doctrine that everybody should be thinking over.

But it is basically consistent with the approach the President has taken.

Chairman **Tower**. Secretary Weinberger?

Secretary **Weinberger**. Mr. Chairman, I think it is a far more effective way to measure the arms we hope to reduce. If launchers themselves are the only limitation you use, that plays to the Soviet strength because they have developed a very high degree of fractionation and a large number of warheads for each launcher.

The launcher itself is not really a very effective measure, but throwweight and warheads are a more effective way to indicate the size of the task before the arms-reduction negotiators. From a military point of view, that is a far more realistic way of measuring what needs to be reduced.

Chairman **Tower**. Secretary Shultz, is it your view that the SALT II agreement which the administration has said it will not undercut will not preclude steps necessary to implement the President's proposal, or do you believe that the present policy of honoring the SALT II constraints will have to be altered?

Secretary **Shultz**. I do not think the provisions of SALT II pose any problem to the implementation of the President's program and I tried to spell that out in my statement. How the Peacekeeper was contemplated in the SALT II agreement, then called the MX, and the new, smaller missile that would be developed, is something that would go into the engineering development stage and it will be a while before that is developed and ready for deployment in the 1990's, long after the treaty has expired, and there is nothing in the treaty that prohibits the engineering development, once undertaken.

SURVIVABILITY OPTIONS FOR MX

Chairman **Tower**. Secretary Weinberger, as you know, there has been considerable concern in this committee and in Congress, as reflected in previous committee reports issued by this committee, by the House Armed Services Committee, and in legislative history made on the floor of the Senate and floor of the House on the matter of survivability.

And, in fact, the idea of silo stuffing was rejected by the Congress at one point because it was felt that would militate against finding a more permanent solution to the survivability issue. You did touch on this in your testimony and the Commission has not only not foreclosed but actually recommended, I believe, pursuit of options to enhance the survivability of the MX.

Is it your intention to establish a vigorous program of exploring the survivability options for the MX?

Secretary **Weinberger**. Yes, indeed, Mr. Chairman. We have specific sums in for studies and research work into hardening and superhardening of existing silos which would add greatly to survivability. We have specific sums designated for studying a hard, road mobile option for the small missile and for studying the small missile itself. Also there are sums set aside for the intensive research and development work on the study of deep underground basing.

So yes, we certainly would pursue those actively and vigorously along with two major recommendations, placing the MX missiles, the Peacekeeper missiles, in the existing silos which, as you said, was the recommendation the President made in October 1981, and, of course, the small missile development. But survivability would be at the forefront of the reasons we would pursue all of those other recommendations of the Commission.

Chairman **Tower**. Thank you, Mr. Secretary.

Before I yield to Senator Jackson, I might note that no one over the years has been more consistently nonpartisan or bipartisan in his approach to national security issues than Senator Jackson. He has been contributing in a very valuable way to our input on strategic issues for many years.

Senator Jackson?

Senator **Jackson**. Thank you, Mr. Chairman, for your kind comments. I have always felt that the Russians do not mark their missiles R for Republicans or D for Democrats. There has been a tradition in this country since the days of Franklin Roosevelt that the area of national security, Mr. Chairman, requires the best input from our two great political parties. I especially want to reiterate and commend the Commission for reaching out politically to both parties.

I think not too many realize how much time and effort was put into contacting Senators and Congressmen of both political parties before the Commission came to its conclusion. Some may say that the findings are too political and not sufficiently military. I do not buy that. I think the critical thing is what will work, how do you get something done, and we are at a very important juncture here in our negotiations with the Soviets.

I wanted to ask each Secretary what their reaction would be if we fail to move effectively with modernization of our land-based force as has been recommended by the Commission—Secretary Shultz first.

Secretary **Shultz**. Well, I think you have to ask yourself a whole series of questions, Senator. First of all, you have to say what would that mean for our national security. It is hard for me to see it would be anything but a major setback to our national security not to modernize and maintain the triad of our strategic forces in as strong a state as we can.

It seems to me you have to ask yourself what is the impact on our allies if we fail to move forward in this regard. And it seems to me the answer there is equally clear, that they must ask themeslves what about the resolve, what about our willingness to follow through on these things and to maintain the shield that is necessary for us and them.

I think you have to ask yourself what is the likely reaction of the Soviet Union. What do they conclude from our inability to move forward with what is obviously a greatly improved and modernized weapon to put into our system? It is hard to see how they could conclude anything other than that our resolve is weak.

And, finally, I think you have to ask yourself what is the effect on our efforts to gain a reduction in these armaments. In a way, it is hard to see how they would think other than that if they can get a reduction without having to give up anything themselves, they will take it. They will put it in their pocket and walk away. We achieve nothing in that regard.

So from each one of these critical standpoints it seems to me that we have a great deal to lose and nothing to gain from failing to act on this recommendation.

Senator **Jackson**. Secretary Weinberger?

Secretary **Weinberger**. Senator, in keeping with the spirit of bipartisanship, I would like to answer your question by paraphrasing my predecessor, Harold Brown. He said, it was first in the early 1960's that we said we would modernize with a new missile, to be ready in the late 1970's. In the mid-1970's we said we would do so in the early 1980's. In the late 1970's we said we would do so in the mid-1980's.

We have failed so far to do any of these things, even while the Soviets were deploying over 800 new ICBM's, each with a payload equal to or greater than the MX, and with accuracies now matching the most accurate of our current ICBM warheads.

To say the United States will modernize in the early 1990's with a small, single-warhead missile would just not be believable. The Soviets would be justified in calculating that any new United States ICBM system will again be aborted by some combination of doctrinal, environmental, fiscal, or political problems.

The United States has not been capable of reaching the consensus so necessary for the vitally needed strategic modernization, and that is one of the great things I think the Commission has done. They have brought in an unanimous report which was accepted by the Joint Chiefs of Staff, the President, by me, by everyone who has had a chance to look at it.

And I think that if we do not do this the Soviets certainly are not going to stay at the negotiating table and they are not going to have the kind of mental outlook that is a vital part of deterrence.

Senator **Jackson**. Is not one of the important objectives here not only to deter nuclear war but also to deter risktaking as it could be reflected in regional conflicts? We think of these massive missile systems, Mr. Chairman, solely in terms of avoiding a nuclear conflict, and that is obviously the first priority.

But I do believe its impact in terms of reducing the risktaking that the Soviets would otherwise follow is of equal importance, especially for Secretary Weinberger in his defense planning and for the Secretary of State, Mr. Shultz, in addressing the problems with our friends and allies around the world where there is the danger at all times that the element of risktaking would go up and with it the danger of conflict.

Secretary **Weinberger**. We have no question about that, Senator. I think we could sum it up by saying the weaker we are and appear to be, the bolder and more obnoxious becomes their policy.

Senator **Jackson**. Mr. Chairman, I just have one other question and comment, and that is I want to thank the Secretaries of Defense and State for indicating the need for confidence building, and the President is making some recommendations in that regard.

I do believe that one of the real reasons for the demand worldwide for a nuclear freeze stems not merely from the presence of nuclear weapons in terms of thousands of numbers but it stems primarily from what is perceived to be a situation in the world where political institutions are not adequate. The fear that the crazies will take over is the only way one can analyze and come to the conclusion why did this worldwide effort get underway.

And I do believe that what people are deeply concerned about is the instability of political institutions. The weapons have been here since Alamogordo in July 1945. Why did public concern suddenly move in this direction? I think it started with the Ayatollah in Tehran. Here is the U.S. superpower not able to do anything about such outrageous conduct.

PREVENTING POSSIBILITY OF NUCLEAR WAR

I hope the administration will do everything it can to ask the Soviets to join with us in preventing the possibility of nuclear war by accident, miscalculation, or misunderstanding. World War I was a war that was never planned. With the terrorism—we watched it yesterday in Beirut—and with some leaders in the world seeking to get nuclear weapons by whatever means, such leaders in many instances are being totally irresponsible.

This, I think, is the real fear. This is an area in which the Soviets could join with us. I do not believe they want a nuclear conflict any more than we want one. We need to reassure there are means available beyond the hotline to prevent that possibility; I think this goes to the heart of the strategic issues we face.

Do you wish to comment?

Secretary **Weinberger.** I was just going to say on the confidence-building measures which you, Senator, and Senators Nunn and Cohen and others have taken a strong lead on, I do think it is vital we move in this direction, by upgrading the hotline and working on some kind of multilateral agreement to plan to deal in advance with terrorist activities when they occur, such as a couple of the ones you have referred to.

There is that fear, and the President has expressed it very well. It is a deadly situation when two nations with nuclear weapons sit facing each other, especially with the risk of others intervening to cause accidental war or any one of a number of situations that can occur.

So the confidence-building measures and the ability to remove the threat of accidental or war by mistake, is also a vital part of restoring the peace and stability we all seek.

Secretary **Shultz.** I would only add the point that Secretary Weinberger referred to, that confidence-building measures not only go to the question of the United States and the Soviet Union but also to the problems posed by any proliferation of nuclear weapons and the placing of those in very irresponsible hands.

And so, just as it is important to negotiate about the reduction of armaments in the hands of the United States and the Soviet Union, it is also important to consider that other matter and to be working on it. And my instinct is, and experience is, that the Soviet Union is equally concerned about this matter.

Senator **Jackson**. Mr. Chairman, might I conclude on that point? The Soviet Union has the best record of any country in really preventing the proliferation of nuclear weapons. I am not saying what motivates them, but the point is they have, as you mentioned, Secretary Shultz, I think, a real interest in trying to prevent the proliferation of nuclear weapons and there is just, I think, a great opportunity to work out something with the Soviet Union by upgrading the current hotline.

Mr. Chairman, I want to commend Senator Warner, Senator Nunn and Senator Cohen—Senator Warner, chairman of the Strategic Subcommittee—for their efforts in this regard, too.

Chairman **Tower**. Mr. Warner?

Senator **Warner**. I thank you, Senator Jackson. Welcome, gentlemen.

WINDOW OF VULNERABILITY

We have under way now at least half a dozen major programs in the strategic area, ranging from C^3 to Stealth. This program has been given emphasis by the doctrine of the window of vulnerability, as laid down by the President.

In your judgment, has this Commission report and now the administration's report changed in any way the doctrine of the window of vulnerability as it was enunciated originally?

Secretary **Weinberger**. No, sir, I do not think it has. I have read the report that it is purported to have eliminated that whole concept. I certainly do not read it that way. I read it exactly to the contrary.

We have a vital need to modernize all three parts of the triad at once and the Commission has recommended that we continue unabated and without change in the modernization of two of the three legs on which we have started, and that we assign the same high priority the President has to improving and hardening command, control and communications. Those are all under way and they will certainly continue.

The Commission's emphasis on the need to do something to modernize as quickly as possible the ground-based leg of the triad seems to me to make it very clear they feel that this need and the need to do it as quickly as possible through the use of the Peacekeeper missile in the existing silos, I believe this emphasizes the fact that we do have a situation in which if we do not take all of these preventative measures we will become vulnerable in the sense that our deterrence will be eroded and we will have, as I have said, a hard time prevailing in any kind of arms reduction negotiations or even keeping the Soviets at the table.

We will, by apparently becoming unable to reach a consensus on how to modernize and strengthen the triad, we will encourage the Soviets to think that it cannot be done. That makes us very vulnerable.

So I do not think the Commission's report has done anything, Senator, except underline the importance of doing what we are doing, and we can put any kind of tag or title on it we want to.

Senator **Warner**. Secretary Shultz, do you concur in that?

Secretary **Shultz**. Yes, I do.

Senator **Warner**. Fine. Thank you.

Secretary Weinberger, we on the Authorization Committee cannot be unmindful that at this moment the Budget Committee is also considering the fiscal 1984 budget. Bearing in mind that we have a confluence of Stealth, cruise, Trident II, MX, Midgetman all coming in with IOC's ranging from the late eighties to early nineties, it seems that we have to take into consideration the possibility of leapfrogging over the MX program and going directly to the Midgetman.

MIDGETMAN MISSILE

Midgetman has, as Secretary Shultz clearly said today, some advantages from the standpoint of arms control which is in every sense of the word equally important in our consideration, and I have been doing some research on how this Nation, when confronted with a similar dilemma, developed the Polaris submarine program.

As you know, Admirals Rayburn and Levering Smith, who was a member of this panel, and I discussed this question with him yesterday, and others were given a wide range of authority in the Department of Defense, a clear go-ahead and in a very short period of time the United States put to sea the Polaris submarines.

Was any consideration given to leapfrogging the MX and in your judgment, is that an option we should consider if in fact we are faced with a budgetary limitation?

Secretary **Weinberger**. By that, Senator, you mean to give up the MX and go directly to the——

Senator **Warner**. Yes, on an accelerated basis.

Secretary **Weinberger**. The Commission certainly looked at that. They commented on it unfavorably, and I certainly would too, because a great deal of work is needed to be done on the small missile before we know in what way it can best be deployed, how practical and feasible it is. That is why the Commission has emphasized that a priority should be given to doing this work. But at the moment, it is not a missile, it is a concept.

The Soviets have deployed their SS–18's and SS–19's and more modern versions of others, and you spoke in your previous question about windows of vulnerability. I think we would simply continue a situation in which we lacked an effective and credible deterrent for far longer than is safe.

Some $4 billion to $5 billion has been invested in the Peacekeeper missile. It can be flight tested this year and will have its initial operating capability in 1986. I do not think it is safe, to be perfectly frank about it, to drop the Peacekeeper and hope that something out in the future will work. As former Secretary Brown said, this is, in a sense, what we have been doing. We have been saying we will do it this year; no, we will do it in 3 more years; no, we will do it in 6 more years. So I do not believe that dropping the Peacekeeper is in any way a feasible or safe option.

Senator **Warner**. Thank you.

Mr. Secretary, I asked this same question to the Scowcroft panel yesterday, and the question was, putting aside domestic political considerations, is this recommendation of the Commission the best possible and most effective military response and arms controls response to the problem you outlined?

METHOD OF DEPLOYMENT

Secretary **Weinberger.** Senator, I will answer that this way: I think if you ask 10 people the question in a different way: "What is the best possible way to deploy this missile?" You would probably get 9 to 11 different answers. There is no consensus on what is the best. The President recommended about a year and a half ago that we do this with the missile, that is, we put it in the existing Minuteman silos, and that we then look to a number of different options to improve its survivability and develop other ways of maintaining the ground-based leg of the triad. Understandably the Congress had a different view.

Others have suggested different systems in response to a deadline. The President was mindful of the fact it would be very much easier to defend with existing ballistic missile defense, and recommended a closely spaced basing concept last fall. Others did not like that. It needed a lot of work, and it needed a lot of development of a number of concepts, all of which the Commission has called for, incidentally, in this study of superhardening, and in this includes the phenomenon of fratricide and other things.

I do not know of any one best method of actual deployment. The important thing now is to have this missile with its 10 warheads, and its proven yield and accuracy—and with the enormous amount of work that has already gone into it—available as part of the triad of strategic defenses as soon as we can get it. It is, in that sense, far ahead of any other alternative.

The Commission recognizes that putting it into the Minuteman silos may not be the best from everybody's point of view, but it does satisfy what the Commission believes, and I believe, is an immediate need to have the strengthening of the ground-based leg of the triad. Then they also, quite correctly, call for a study of another or perhaps a better solution, such as the small mobile missile and a number of other things like superhardening and so on, that we can do.

But I certainly am not prepared to say what is the best deployment mode from a military point of view, because almost everyone you ask has a different answer.

Senator **Warner.** Secretary Shultz, the MX system has been characterized as a use it or lose it system, namely, that it moves the U.S. in the direction of a first strike capability. What would be our response to those arguments?

Secretary **Shultz.** I do not think the numbers proposed would lead to that kind of conclusion at all. The numbers are less than would be necessary for such an idea to be entertained, and it is not an idea to be entertained in any case.

Senator **Warner.** So the number is the principal rebuttal, the small number.

Secretary **Shultz.** Yes, I think so.

Senator **Warner.** Moving on to the verification of the smaller missile system, the mobile system, any future arms control agreement would have to include provisions for adequate verification. Does this small missile pose problems that can be surmounted?

Secretary **SHULTZ**. It certainly poses problems that are different and, I would think, would require in verification some methods that get you on the ground a little bit.

Senator **WARNER**. In other words, we move in the onsite direction?

Secretary **SHULTZ**. I would think so. That is a question that needs to be thought through and kind of built into this process.

Senator **WARNER**. Thank you. My time is up.

Secretary **WEINBERGER**. Just before we leave, Senator, could I correct an omission? I did not include the fine work Senator Warner has done in confidence-building measures, too. He has been part of this group of the committee who has done excellent work and has devoted quite proper attention to that.

Senator **WARNER**. Thank you.

Chairman **TOWER**. Senator Stennis?

Senator **STENNIS**. Gentlemen, much has been said about the fine work of this Commission, and I heartily join in that. I also think the Commission we had this year on the social security field made a splendid contribution. I am familiar with what the Senate members of that group did. They did a fine job. But after all is said and done, I want to keep it clear that this is a congressional responsibility—a congressional responsibility—regarding what is going to be done about authorization. Whatever is decided this year, it will still be the responsibility of Congress to carry on in this field. It is a congressional power and responsibility under our system.

And that is the way I emphasize that this matter is going to be nonpartisan all of the way, this year, and the next year, and every year. Is that the way you feel about it, Secretary Shultz?

Secretary **SHULTZ**. Yes, sir, it is. I think it is very important to collect ourselves as Americans and decide what the best course of action is, and among other things, in that way we give assurance of continuity of effort, whatever the political fortunes may be from one period of time to another.

Senator **STENNIS**. Secretary Weinberger?

Secretary **WEINBERGER**. I fully agree, sir. It is a national and world problem. It is far above any partisan considerations, and I hope it will always be treated as such.

Senator **STENNIS**. I feel you mean what you say, and the President has expressed the same sentiments, and I feel like he, too, means what he says. I have no fear of you, gentlemen, but we have to preserve this system here and let it be known. I frankly from where I sit, have heard more, more bipartisanship talk in the last 2 or 3 years than I have heard at any other time in a comparable period by far about the military program as a whole. We could not have a better illustration, as I see it, than we have in this very matter here today. So, you speak for the administration in these fields, and you expect to continue to hold to that attitude. Is that right?

Secretary **WEINBERGER**. Yes, sir.

ESTIMATED COSTS OF MX

Senator **STENNIS**. Are either of you prepared to give a figure for information about the relative costs, the estimated costs of this MX?

Secretary **WEINBERGER**. Yes, sir. These are estimates, sir, but we have computed the cost and the Commission has looked at the figures, and it is my understanding they are in agreement. In fact, I believe they have adopted these figures for the deployment of 100 of the MX missiles in existing Minuteman silos. The estimated cost is $16.6 billion—in fiscal year 1982 constant dollars—or about $10 billion less than the closely spaced basing proposal of the President, the amounts for which are in the budget for the first year that is before you. The $16 billion is for the Peacekeeper missile deployment itself, and the for testing, spares, and training.

In addition, there are, as I have indicated, somewhat smaller amounts for the studies called for in the Commission's recommendation. Included are $750 million for 3 years for the research and development, work on the small missile, $450 million over the next 3 years for the superhardening, $200 million for the hard road mobile option for the small missile, and $100 million for the deep underground basing option.

Senator STENNIS. Did you say the Commission made those estimates?

Secretary WEINBERGER. Yes.

Senator STENNIS. What I want to know is, do you think those figures are correct?

Secretary WEINBERGER. Yes, sir. Those are the figures we believe are correct now. And with the case of the MX, where we are well along, and are able, as I said, to do flight testing within a couple of months after congressional approval, that would be another of the programs that we would monitor with regular weekly or biweekly meetings, as we are doing with the other major ones, to make sure we stay within that estimate.

Senator STENNIS. Thank you. As far as I am concerned, you have covered that sufficiently.

Now, all of a sudden we hear so much talk about the small missile. I do not think the people have a full explanation of this, the so-called Midgetman. I have not myself. What about the practical side? Why not just skip over this MX—after all, it has given us so much trouble—and go to the smaller missile?

Senator Warner mentioned this, but did you give a time limit as to how long it would take to go into the smaller missile?

Secretary WEINBERGER. I do not think anyone can say with absolute certainty, sir, but I believe it could be ready in the early 1990's. As we say, it is not a missile now. It is a concept. It has a lot of different features to it.

Senator STENNIS. You are saying that for practical considerations you cannot use that as a substitute now.

Secretary WEINBERGER. No, sir. You could not.

Senator STENNIS. I wanted to ask some questions about the MX itself, the missile. I believe for the current year we have a limitation there on some of your testing. Has the limitation in the present appropriation bill been a hindrance to you, Mr. Secretary?

Secretary WEINBERGER. On the MX?

Senator STENNIS. Yes.

Secretary WEINBERGER. Yes, sir. We have had to stop work on the things that lead to flight testing and matters related to procurement. We have been able to continue some of the necessary research and development. But if we are to keep the initial operating capability date of 1986, we would need to have the release of funds that were appropriated in the 1983 budget within a couple of months.

Senator STENNIS. The entire plan you are presenting today assumes that you are going to get that money released for this future appropriation.

Secretary WEINBERGER. Based upon that hope, yes.

Senator STENNIS. We will not go into any of the other money. I have already satisfied myself that under the present facts, there is nothing practically left to do except follow this plan. I think they put it together mighty well and deserve credit. But I do want to keep emphasizing that the responsibility is with the Congress—and we can get help from Commissions—but the responsibility is with us.

That is all I have now, Mr. Chairman.

Chairman TOWER. Senator Cohen?

Senator COHEN. Thank you, Mr. Chairman.

HISTORY LEADING TO NEED FOR MODERNIZATION

Mr. Weinberger, Secretary Shultz, just a little bit of history for my own sake here. The need to modernize, as you have indicated—that decision was made back in the early seventies—was brought about principally because of the Soviet deployment of the SS–18's and SS–19's, highly accurate, destructive missiles which constituted a potential threat to our land-based ICBM's. A so-called window of vulnerability was said to have opened, and it produced a desire on our part to produce a less-vulnerable ICBM. It was this alleged vulnerability which, in essence, drove the search for mobility, on which we spent a considerable amount of time during the latter part of the seventies.

We discovered over those years that we could not devise a mobile scheme for this missile that was either environmentally acceptable to Western States or politically acceptable to the administration. So in essence we have come to the conclusion that we need an MX as a political statement, that by placing the MX in a fixed silo, which is theoretically just as vulnerable as the current Minuteman silos, it serves as a political statement about American will and capability, and as a political lever to the Soviet Union that we have opened up a new production line of a missile system which, if produced in sufficient numbers, could put their SS–18 and SS–19 and other hard targets at substantial risk.

Now, Senator Warner mentioned a moment ago the question about use it or lose it. In the context of strategic nuclear weapons, where you would have a situation where each superpower is under a threat of losing its ICBM force, then the finger around that hair trigger tends to tighten somewhat, particularly in a time of crisis. In other words, pressure is generated for a use-it-or-lose-it philosophy or posture, a philosophy or posture which I think we all agree we want to avoid at all cost.

Now, at our last hearing 2 days ago, General Scowcroft said there was nothing magical about 100 MX missiles, that it could have been more or less, that the number was arrived at to give the Soviets cause for concern, but not too much concern. In other words, they would be deployed in sufficient numbers to encourage arms control negotiations, but not in sufficient numbers so as to constitute a so-called first-strike capability.

The problem is, 100 MX missiles may not per se constitute a first-strike capability, but 100 MX missiles combined with the deployment of the Trident II and the D–5 missile might constitute a first-strike capability. General Scowcroft agreed with this assessment. So, it seems to me, we have to take into account the combination of the MX and the future deployment of the Trident II, which is not too far away, as to whether or not that would constitute a sufficient first-strike capability so as to put us both under that pressure of a use-it-of-lose-it capability.

TWO-TRACK THEORY FOR INF NEGOTIATIONS

What I want to explore with you this morning is this: I assume you support a so-called two-track theory for the INF negotiations. Namely, we have two tracks that our European allies are moving down, and unless the Soviets agree to come to an arms-control agreement, we are going to go forward, in conjunction with our allies, for the deployment of the Pershing II and the ground-launched cruise missile.

I was wondering whether or not you feel we could adopt a similar program for our own arms-control negotiation. Namely, we might perhaps set lower numbers for MX and yet set certain milestones that, unless we arrive at an arms-control agreement with the Soviets, more might be deployed. This puts at least some leverage, some pressure, on the Soviets to come to an agreement, the same as we are trying to do in the European theater. In other words, we would have a two-track system with the MX as well.

Would that be something you would consider exploring?

Secretary **Weinberger**. Yes, Senator. Let me put it this way. If we reach an agreement with the Soviets that is within the President's basic criteria, which is a major reduction down to equality on both sides and fully verifiable, there will never be a time when we cannot take out what we might have put in or stop what we have planned. That is the essence of the European NATO two-track decision you refer to. We will deploy the Pershing II's and the ground-launched cruise missiles. The Soviets should accept the INF option or the current proposal as a stage toward reaching zero option. We could stop deployment.

The important thing, however, is to make sure the Soviets understand that they do have to negotiate, and they do have to bargain, because otherwise there will be a counter deployed. There is no counter now to the SS–20's. With respect to our own missile program here, again, you have a situation in which, as you correctly said, through the deployment of the SS–18's and the SS–19's and one other factor you did not mention, and that is the enormous hardening the Soviets have done of their targets, that in effect makes the Minuteman not nearly as effective as it should be.

That is to say, we have to have an active plan and be moving toward full deployment. The 100 number is a number that would give 1,000 warheads which would replace essentially the warheads being removed in both the Titan and the Minuteman if this program is approved. And I think it is essential that this be done. The use-it-or-lose-it tag, I do not think, is particularly descriptive of this system. The numbers involved, as Secretary Shultz has pointed out, make it quite clear it is not capable by itself of destroying the Soviet strategic system.

Senator **Cohen**. But it is in conjunction with the D–5.

Secretary **Weinberger**. The D–5 does not become operational until 1989, and not in sufficient numbers until some years after that. It is important at all times not to have a period of time in which the strategic balance tilts against you. That is when I think you have the most dangerous period, because your deterrence is weakened.

But my own feeling is that you have in this program recommended by the Commission particularly the continuation of the President's strategic programs and the additions proposed by the Commission, something that if carried out, will regain stable deterrence for us, and enable us to get arms reduction agreements. However, if we again demonstrate that we cannot form a consensus on this subject, then I do not think you would see any incentive for the Soviets.

NATO AND THE WARSAW PACT: FORCE COMPARISONS

Senator **Cohen**. There is a publication called "NATO and the Warsaw Pact: Force Comparisons," just published in 1982. One of the diagrams, so-called figure 11 in that publication, indicates that the U.S. Minuteman III and the SS–18 and SS–19 each carry warheads with sufficient yield and accuracy to destroy silos. It points out that the United States, by increasing its total warheads by something over 1,000 would have an ability to put at risk the entire Soviet ICBM force using two warheads on each silo. We already have a capability of destroying some 50 percent of the Soviet's ICBM force.

By comparison, the Soviets, who have four or five times that number, have a capability of putting at risk only 25 percent of our overall deterrent force. I was wondering if you had a chance to look at that particular diagram.

Secretary **Weinberger**. I have seen it, but I disagree with a couple of the assumptions. One is the assumption that we have a sufficient number of accurate high-yield Minuteman projectiles to destroy that number of hardened targets. We do have the submarines, but again our SLBM accuracy and yield are not sufficient to do the task, and that is why we are going toward the D–5. We have the B–52's, but of course the age problem of the B–52's is very well known. The difficulty of getting them off the field in the face of a Soviet attempt to pin them to the field would make that again a risky thing to lean on in the long term without the strengthening we have proposed, and that Congress has thus far approved in the B–1.

The cruise missiles are coming on now, on some of the newer B–52's, and that adds to our capabilities. But again, you have to look at the overall picture, and I do not believe that study presents a fair statement of the relative capabilities of the two strategic forces. That is why I think we have to do the modernization of all three parts, and why we have to proceed at the pace we are, and that is the pace indicated by the Commission's recommendation.

NUCLEAR FREEZE RESOLUTION

Senator **Cohen**. Mr. Secretary, in yesterday's New York Times, the lead editorial had a rather critical piece on the nuclear freeze resolution currently being debated in the House of Representatives. I suspect the resolution will be voted on if not today, then perhaps tomorrow. The editorial indicated that the freeze resolution displays passion but no practicality, and that it had not evolved past the original simplistic formula of "stop now."

In the concluding paragraph it says, "A dozen or more profreeze Senators have endorsed the build-down idea Senator Nunn and myself have offered." Unfortunately, instead of welcoming such innovations, many freeze enthusiasts attack them." I wondered what the Department of Defense thinks about the build-down concept.

Secretary **Weinberger**. I have not seen the build-down proposal, Senator, but that is essentially what we are engaged in. We have started that unilaterally. We are taking down Titans. We would take out some of the Minutemen, and we have taken a great many warheads out of Europe and other areas.

The basic problem with the freeze and I think the President has described it very well, is that we would be quitting when we are behind, and it again signals we have no intention, or capability or national will to maintain the balance that is essential to maintain deterrence.

Senator **Cohen**. My time is up. Thank you, Mr. Chairman.

Chairman **Tower**. Senator Nunn?

Senator **Nunn**. Thank you, Mr. Chairman.

Secretary Weinberger, first, I want to commend you and your department for the enhanced stability and communications link study that you have had undertaken for the last year pursuant to our congressional amendment. I think that study reflects a great deal of thought. I am sure there was a lot of pulls and tugs during the study process from different parts of the bureaucracy, but it is an important first step toward what I think can be a major step down the road toward crisis reduction, risk reduction, and overall stability. So that is the subject of another hearing, but I do want to commend you for it.

Secretary **Weinberger**. Thank you very much, sir. You together with your colleagues have been the leader in pointing out the importance and necessity of doing that, and we fully agree with the premises you have had, and will certainly pursue it.

Senator **Nunn**. Thank you.

ARMS CONTROL RECOMMENDATIONS

Mr. Secretary, the Commission, the Scowcroft Commission made recommendations on the deployment of the MX, the Midgetman missile, moving toward a smaller submarine, and so forth. They also made some very significant, I think, recommendations on arms control. Do you endorse those recommendations on arms control as well as the recommendations on strategic programs?

Secretary **Weinberger**. I do indeed, with only one exception, Senatr, that I refer to it as arms reduction. I think that is the essential part to get into any consideration of this. But I do indeed.

Senator **Nunn**. Secretary Shultz, do you also endorse the Commission's recommendations on arms reduction and arms control?

Secretary **Shultz**. Yes, sir.

Senator **Nunn**. Does this mean the President is going to make, let us call it a "fresh start" in terms of arms control, because the Commission has recommended some changes in the President's START proposal.

Secretary **Weinberger**. Essentially, the changes they have recommended, as I understand it, Senator, and Secretary Shultz knows more about this, are the changes necessary to conform to the actual recommendations they have made with respect to deployment of missile systems. The President could not be more fully committed to arms reduction than he is. I have had the privilege of knowing and working with him for a long time, and I have never seen a subject on which he is so thoroughly committed and to which he is so thoroughly devoted as to achieving genuine arms reduction.

The START proposals reflect that. They call for very deep reductions in the most destabilizing types of weapons.

Senator **Nunn**. Mr. Secretary, let me get specific here if I could, because I am afraid I will run out of time.

Secretary **Weinberger**. All right, sir.

Senator **Nunn**. I asked General Scowcroft Monday, and I will direct this to both you, Secretary Weinberger, and also Secretary Shultz, I asked General Scowcroft Monday what changes would be required in the current U.S. START position if the President accepts the Commission's recommendations.

He replied, and I quote him:

> I think the first thing that would happen would be a modification or dropping of the 850-launcher limit together with a reappraisal of whatever sublimits have been informally communicated to the Soviet Union, and a move toward warhead-counting limits as the unit of measure. As it stands right now, a START proposal is not fully compatible with the recommended direction in arms control.

So, the Commission clearly feels START has got to be revised.

Secretary **Weinberger**. If the Congress accepts the recommendations for the small missile, I think you would certainly have to move away from the launcher concept, because you do not have more warheads than just the one. So I certainly think that would be an essential part of coordinating the Commission's recommendations for arms-reduction proposals.

Senator **Nunn**. Secretary Shultz, do you share that view?

Secretary **Shultz**. I do indeed. But of course, what number you choose would depend upon the depth of the reductions you wind up talking about. So I think it is clearly an issue that has to be studied carefully, just as I think the movement from multiple-warhead launchers to single-warhead launchers is by way of a move that causes us to think through basic concepts.

So I think there are very important implications to the Scowcroft Commission recommendations. But whether they mean that necessarily you would have to go up on the number of launchers is a question, for the reason Secretary Weinberger mentioned. I think there is a certain presumption in that direction.

Senator **Nunn**. It seems to me, Secretary Shultz, that this Commission—I do not know what the outcome of their recommendations will be, but clearly it was a bipartisan effort. People from at least three administrations, some Republicans and some Democrats.

Clearly, the Commission's report will get a thorough hearing and an objective look by the Congress and American people. It seems to me there is a real case to be made that, while you are looking at these arms-control implications, while you are perhaps revising the START proposals in accordance with the Scowcroft Commission, it might be a good time to think seriously about having a Scowcroft-type Commission on arms control that would send a signal to the Soviet Union and our allies that arms control is going to last beyond one administration; that the Reagan administration's proposals may not necessarily be phased out if the administration changes in 1984.

CONTINUITY IN ARMS CONTROL

We must signal that kind of continuity in arms controls; we have not had it for a long time. Every administration spends the first 1½ or 2 years dumping on the previous administration's arms control proposals, and we simply do not have any continuity.

I believe that unless we can develop that sense of continuity, we will have a diminishing chance of getting the Soviets to agree. They will simply wait for the next administration.

Do you think, Secretary Shultz, there is any merit in considering the possibility in this, let us call it a "window of opportunity" in arms control, that we have some type of Commission representing a bipartisan effort that would signal that this administration is going to try to have proposals acceptable on both sides of the aisle, that would continue beyond one administration?

Secretary **SHULTZ**. I think, first of all that the idea of having a program that has broad support on both sides of the aisle is an essential ingredient. We do need continuity in our efforts.

Second, it seems to me that continuity has to depend fundamentally on the virtues, you might say, of the proposals being made and the ability to get some sort of outcome from the process of negotiations. So it is the quality of the proposal that counts.

I think in that regard the President's proposals for reductions, as distinct from limitations, have gotten a very good and broad, wide support, particularly since the negotiations are going on and that is the setting, that is the agenda that has been set.

Whether a new Commission to sort of keep track of what is going on and suggest new things, that would be bipartisan in nature, would be good at this point, I think it is a question that is worth considering. I would not want to make a statement one way or the other about it right now.

Senator **NUNN**. I understand that. I would hope it would be taken under consideration.

It is obvious to me, if Congress goes along with the Scowcroft Commission's report on strategic weapons, it seems to me the administration—and you both said you endorse the arms control part—the administration has a chance to come up with, let us call it, a fresh START proposal that takes into account the Commission's recommendations; that takes into account the move away from counting launchers, more toward a warhead count; that takes into account perhaps a limitation on new missiles, MIRV missiles on both sides, with a limit somewhere in the neighborhood of 1,000 warheads; that takes into account trying to limit the number of warheads to match the number of targets.

It seems to me the most significant part of the Scowcroft Commission report may well not be the MX proposal itself per se, but the long-term implications for arms control. And I do see it as a real window of opportunity for a bipartisan consensus to emerge on this subject.

So I would hope you would take that into consideration.

Secretary **Shultz**. I appreciate your comments. I do think it is worth stating, in the light of your comments, that the President's proposals have already moved in the direction, as Secretary Weinberger noted in his statement, of warheads and throwweight, perhaps not as strongly as the Commission might suggest, but that sense of direction has been there from the start.

BUILD DOWN CONCEPT

Senator **Nunn**. Senator Cohen and I have talked a good deal about the guaranteed build-down concept which permits modernization but requires reductions. And of course, there can be all sorts of innovations under that broad concept.

But it seems to me that the Commission has basically said, we do not have a way to base the MX in an invulnerable mode, at least now. We do not have one that is politically and militarily feasible. Therefore, we are being asked to put what is in essence a very accurate missile in a very vulnerable position.

The Commission clearly tied that consideration and the dangers inherent in that consideration to arms control and the move away from that exact kind of position on both sides. So we almost have a contradiction here. The Commission is saying, in the short term we are going to move into a highly accurate missile in a vulnerable hole, but in the long term we want to move precisely in the opposite direction.

Now, I can bridge that gap intellectually, but only if the administration bridges the gap in terms of their position on arms control and makes it clear that is the kind of situation that we really want to design arms control proposals to move away from.

Senator Cohen uses the words, "use it or lose it." Others have said launch on warning, launch on attack. But I think both sides are inextricably moving toward launching much quicker than has been the case in the past. Now, that leads to all sorts of dangers.

So it seems to me that tieing the MX deployment or the MX authorization directly to the administration's arms control positions as they may be revised and, most importantly, to Soviet willingness to get rid of some of their first strike weapons, it seems to me there is a real case to be made for Congress taking a look at that kind of direct tie.

Senator Cohen and I have talked about it and others have, and I would like to pursue that after you have had a chance to think about it some, perhaps at a later hearing or conversation.

I think my time is up.

Secretary **Shultz**. May I just remark that I think the "use it or lose it" is not applicable, for example, to our submarine-based missiles. The statement was made as though that concept goes across the board.

Senator **Nunn**. I do agree with you on that.

Secretary **Shultz**. The triad has been a principal point that has gone across administrations traditionally. Recognize that even if one member of the triad is more vulnerable than the others, there are elements of it that are survivable.

Chairman **Tower**. Gentlemen, I must insist on strict adherence to the 10-minute rule, in that our time is finite.

Senator Jepson?

Senator **Jepsen**. Thank you, Mr. Chairman.

MX IN MINUTEMAN SILOS

Secretary Shultz, one important rationale for deploying the MX in Minuteman silos has been leverage at the START talks with the Soviet Union. Given the fact there will only be a net increase of 700 ICBM warheads and the additional fact that these 700 warheads will be based in silos that are already targeted by the Soviet Union, how significant do you think this leverage is going to be?

Secretary **Shultz**. Well, the Peacekeeper missile is a decidedly modernized missile, so that it represents from the standpoint of its capability a clear upgrading. So I think, first of all, we have to think of these things in terms of our national security as distinct from the negotiating process as such.

Having made that point, I think it is true that the more security we can build into our system, the more capability we can build into our system, the more incentive there is for the Soviet Union to bargain strongly with us in the Geneva talks.

Senator **Jepsen**. In your opinion, will the leverage be significantly greater than if we embarked upon a program of modernizing our current Minuteman force?

Secretary **Shultz**. Yes, sir. As I understand it, there is quite a significant difference between a modernized Minuteman and the Peacekeeper. Secretary Weinberger could comment with greater technical capability than I on that.

Secretary **Weinberger**. Senator, the important thing about the Peacekeeper is the fact that it has 10 very accurate warheads with the yield necessary to deal with Soviet hard targets. It does give us a capability we do not now have.

Its survivability is something we would certainly want to improve, and that is why the hardening of the silos and other things will be examined, as the Scowcroft Commission recommended. But it does give a clearly improved capability and one which for the first time is able to match the Soviet SS-18 and SS-19, which have been deployed.

Senator **Jepsen**. Secretary Weinberger, the proposal to place the Peacekeeper missiles in the Minuteman silos concedes the vulnerability of our ICBM force to a Soviet attack in the foreseeable future.

Given the attributes of the land-based leg of the triad, such as command and control, high readiness and so forth, will we be forced to move to a strategy of launch on warning or launch under attack to preserve our ability to retaliate on a time-urgent basis?

Secretary **Weinberger**. I do not think so. I think the important thing is for the Soviets to realize that they are not able to launch without risking a degree of retaliation that is sufficiently strong, that it in effect deters them from making that launch.

The danger comes when you do not have that retaliatory capability and that is the worry that we have now, and it has been for some time. That was why the President originally recommended in 1981 that this missile, with its great amount of research and development and engineering that has already been sunk into it and is farthest along, is the one thing that is able to give us the needed capability, must be quickly deployed.

It is the deploying of it that makes the outbreak of strategic war I think, much less likely, and that is why it is essential to have it.

Senator **Jepsen**. Along that line, Mr. Secretary, on page 2 of the technical assessment submitted to the Congress yesterday, it is pointed out that in order to redress the imbalance in strategic capability the United States should, and I will quote from that report, "deploy sufficient numbers of a new intercontinental ballistic missile with improved accuracy to neutralize the coercive advantage the Soviets now hold over our intercontinental ballistic missiles."

Now, given the fact that we will not be deploying a sufficient number of warheads to threaten the entire Soviet ICBM force and the fact that these warheads will remain in what we all concede are vulnerable silos, how do you suggest that this proposal will result in the neutralization of current Soviet advantages?

WEAKNESSES AND STRENGTHS OF THE TRIAD

Secretary **Weinberger**. You have to look, sir, at the Commission's point that all of this is part of one inseparable, indivisible package, and that is because the triad itself, each leg of it, as I have said, has certain weaknesses and strengths.

One of the weaknesses of the ground-based system is its current vulnerability. One of the great strengths of the submarine-launched missiles is they are not vulnerable at the moment, but it is vital that we strengthen the accuracy and yield of that missile as we are doing with the D–5.

The important thing here is to make sure that we do have a ground-based ICBM retaliatory capability. The Soviet effort that would be required to destroy all of the MX Peacekeeper missiles and the Minuteman would mean that they would leave themselves vulnerable, and they would know it, to attacks by the other parts of the triad.

So it is essential not to let any one get out of balance or to let the whole get out of balance, and that is why it is so important, I think, that we deploy this missile. It has been studied for a long time and many people have examined and said that it is vital.

We have had our disagreements over the years on what is the best way to deploy it.

Senator Jepsen. This gets us down to the basic question. The report in its final conclusion mentions the necessity for developing a consensus.

Remember that we have in this country the obligation to persevere in the task of preserving both peace and liberty. I think adding "and liberty"—not peace at any price, but "and liberty"—is very important. And so we come to the question, the essential question. What margin of national security are we getting for the $15 billion-plus investment?

Secretary Weinberger. That is a crucial question. Let me start on the answer by pointing out that we will never exceed 15 percent of our total defense budget with strategic weapons. There will never be more than 15 percent, under the President's program, devoted to the strategic side.

Frankly, the precise number that will give us the deterrence and give us the relative balance needed to maintain deterrence is not known. I am always conscious of the fact that I do not have much room for error. I cannot make many mistakes in the recommendations or programs that we carry out, and if we err on the side of having too much then we will be perhaps criticized, and I will be happy to absorb that, along with some of the others later on, on the ground that we did too much.

It is as if we have too little that is a problem. Knowing the enormous investment that the Soviets have made and the fact that they are now in the fourth generation of their ground-based missiles, and that they are working right now on the fifth, sixth, and seventh. They have never ceased their increased investment, a far greater investment than we have made and therefore I believe it is absolutely essential that we regain a degree of retaliatory capability that we think will maintain deterrence.

Some can say it is too much. I would infinitely rather have it criticized for being a bit too much than too little, because if it is too little we will not know about it until it is much too late.

Senator Jepsen. I thank you, Mr. Secretary.

When you talk about the sixth or seventh new generation, I think we should always add, compared to what? Compared to our first and second generations. Peacekeeper has still to be deployed and they are in their seventh generation.

Thank you, Mr. Chairman.

Chairman Tower. Senator Exon?

Senator Exon. Thank you, Mr. Chairman.

I welcome you, Secretary Shultz and Secretary Weinberger, here this morning.

Mr. Chairman, I intend to proceed with basically what might be considered an opening statement, and hopefully I will have some time left for response from the two distinguished members of the administration who are with us here today. I suspect that my line of questioning will take somewhat a different approach than what has been expressed by my fellow members of the Armed Services Committee.

I would like to start out by saying, I think both of you know I have been a strong supporter of national defense. I supported the B-1 bomber, the cruise missile, the Stealth bomber, the new Midgetman missile as proposed in the Commission and the administration's recommendations, modernization of our chemical warfare technology, enhancing readiness in all areas of equipment, training for not only the Army and Marines but all of our Armed Forces, the rapid deployment force and the important peacekeeping duties we all recognize around the world, the naval and military buildup in general, and the Trident II program in particular, and the dramatic enhancement of the command, communications, control, which we all recognize as essential.

Having said that, I am concerned. Since I have followed and studied this MX business for a long time, and despite the President's supersalesmanship job being launched, I cannot support the recommendations made by the Commission to the President and subsequently endorsed by him. It simply makes no sense to me.

And I hope that the proceedings beginning here today might begin to bring this fact out, that if we proceed either as a committee or as a Congress with the proposals that have been recommended to us we are basically rejecting 85 percent of all of the previous testimony and findings before this committee and elsewhere in this regard.

If we proceed as the administration suggests, let us clearly understand that we do so without blindfolds that otherwise might be placed securely in place. It is astonishing to me that the committee may reverse its position in view of the overwhelming evidence previously before us that the MX should not be deployed without some chance of survivabilty.

It might satisfy the supposedly wonderful bipartisan consensus, but that does not necessarily guarantee that such a course of action will really enhance the national security interests of the United States and the free world.

Let us get down to cases. During the last few days, Secretary Weinberger, it seems to me we have suddenly started having a new perception, and that new perception is, from its beginning the MX was really supposed to be only a Minuteman IV missile, to be placed in silos.

Only later, it seems, did we try to make it mobile or deceptively based, and that effort has been futile. Therefore, according to the Commission report and the President, let us go back to square one and put the MX in vulnerable Minuteman silos anyway.

I have here with me a Department of Defense book, dated December 1980. It is titled "ICBM Basing Options: A Summary of Major Studies to Define the Survivable Basing Concepts for ICBM's." I would like to ask this be entered into the record at the end of my remarks, Mr. Chairman.

Chairman Tower. It will be done.

[Retained in committee files.]

Senator Exon. In this Defense Department report there are some 30 issues studied, specific issues as to how the MX ICBM could be based so that it would not be vulnerable. Not in any instance does this report even mention the possibility of putting the MX missile in vulnerable Minuteman silos.

It seems to me that my point can be summed up by saying, this report says: "This summarizes all of the concepts that received serious attention." With regard to unprotected MX's, it is found to be lacking.

Furthermore, Mr. Chairman, I would like to read into the record statements of several of our past, and in some instances present, leadership of our defense establishment. Secretary of Defense Weinberger, January 6, 1981:

> I would feel that simply putting the MX missile into the existing silos would not answer two or three of the concerns I have; namely, that these are well-known and are not hardened sufficiently, nor could they be, to be of sufficient strategic value to count as a strategic improvement of our forces.

The Chairman of the Joint Chiefs of Staff, General Jones, January 28, 1981:

> All of the systems that have been discussed have some degree of mobility. If it is a vertical shelter, you can move it; therefore, it is mobile, but it takes considerable time to move it from one shelter to another. If the system is horizontal, you can move it much faster; therefore, it is more mobile. We have advocated faster movement, so that if the Soviets detect where the missiles are, we can move them more quickly.

Chief of Staff of the Air Force, General Allen, February 27, 1980:

> After exhaustive studies of some 35 alternative basing modes, the Air Force, supported by both the Air Force Scientific Advisory Board and the Defense Science Board, concluded that the survivability of the land-based ICBM force could best be provided by a system known as multiple protective shelters—that bases a relatively small number, 200 missiles, in a relatively large number, 4,600, of shelters.
>
> The purpose of adding mobility to the normal concealment mode is to deny the Soviets the prospect of executing a successful attack even in the unlikely case that they could gather sufficient knowledge of the location of a significant number of the MX missiles.

General Allen, January 29, 1981:

> Those views are that an essential feature of the MX deployment is that the basing mode be survivable. One does not obtain that through placing it in the Minuteman silos. Therefore, I do not favor such a deployment.

The Commander in Chief at that time of the Strategic Air Command, General Ellis, February 18, 1981:

> We must correct our vulnerability by deploying the MX in a mobile basing mode configuration.

And in answer to a question at the same time of a Senator during that same testimony, General Ellis said:

> Senator, if we had the mobility in the Minuteman force that we are building into the MX force, we would not need the MX force.

And last, I think, but far from least, Mr. Chairman, is a conference report of the Congress for fiscal year 1977 Defense Department authorization bill which came out in June 1976:

> The rationale behind the development of the new missile system, MX, is to provide a land-based survivable strategic force. The development of an alternate basing mode as opposed to a fixed or silo-based mode is the key element in insuring this survivable force.

Now, Mr. Chairman, I would like to have the Secretary respond at this time—Mr. Secretary, I guess I do not think it is quite fair and I do not think we are properly informing the American people if we simply say: Oh, yes, the MX is nothing more than Minuteman IV, that was the way it was designed, that was the way it has always been, when the facts—as I say, the record is replete; 85 percent of the record, most of the military leadership, and indeed some of the quotes I read to you this morning—indicate it was never so designed.

Could you possibly respond as to why there has been this sudden change that we can take the MX and use it as a significant deterrent simply by putting it in Minuteman silos, where we all know they are vulnerable?

Secretary **Weinberger**. Senator, I think the principal reason is the delay that has occurred in selecting some kind of mode over the years. We have been delaying and discussing, going back to the drawing board, debating, and refusing to make decisions.

All the time, the Soviets were putting in the SS–18's and SS–19's and designing the two new missiles they are working on now. It is essential that we not let that kind of imbalance continue.

No one has said, least of all the Scowcroft Commission, that the basing in the existing silos is a perfect mode. No one has said that it makes them invulnerable. It is, I think, quite clear that the discussions, as you have quoted me about putting the MX in the existing silos, is not going to solve the vulnerability question, that is right, but it is not by itself.

Since that time, we have also come up with the President's program which provides for modernizing the two additional legs of the triad: The submarine missile to give it better accuracy and yield, the B–1B bomber and the ATB that is designed to be able to penetrate Soviet defense.

We are certainly not going to secure invulnerability in one leg of the triad by putting these in existing silos. We are certainly not going to secure the Soviets' consent in the arms reduction, and we are not going to secure any kind of recovery of the deterrent capability that we need by not putting them in silos.

We have sunk close to $5 billion in this missile. We have discussed it now for close on to 10 years and we have done nothing during that time to upgrade the ground-based leg of the triad, and it is essential to do that.

We do that by deploying a missile which, for the first time, has the accuracy and yield and number of warheads to deal with Soviet hardened targets, not alone, not by itself, but in conjunction with the new bomber and the D–5 missiles that are coming in the submarine.

But we have a situation where for one reason or another these delays have occurred and we now have to modernize all three parts of the triad. By refusing to do one part of the triad, as the Commission has correctly pointed out, when you pull one piece of the program they have recommended out, it makes much weaker, much less effective, the program as a whole, to say nothing of the other two pieces.

The ground-based leg of the triad is vulnerable. It has, however, great accuracy. It will have great yield if the MX Peacekeeper is deployed. It is easy to command and control, and it is on alert 100 percent of the time.

That is not true of the other parts of the triad. What you need is all three. The vulnerability of one is corrected by the strength of the others.

So no one is saying this is a perfect solution. We are saying this is the one part that for one reason or another has not been decided. It has been discussed, debated, and its adoption refused time after time, and that is something that needs correcting if we want to keep a balanced triad that can regain for us the deterrence we need.

Senator **Exon**. Thank you.

My time is up.

Chairman **Tower**. Mr. Quayle?

Senator **Quayle**. Welcome, gentlemen.

ARMS REDUCTION

I suppose in the testimony we have had the last few days, General Scowcroft put it probably as well as anyone. He said there are three reasons we have to go forward: (1), to show political will; (2), he said we do have to modernize our ICBM's; and (3), he talked about arms control or, as Secretary Weinberger I think properly points out—we probably need to reemphasize this—arms reduction. We are not talking about building up like we did under SALT. We are talking about an actual reduction.

By embracing the Commission report, I wonder if you agree specifically with the statements and recommendations that as one of the major reforms in arms control, which I think is a vital link in getting the Congress to accept the Commission's report, that you would agree with the statement they have made that there should be less emphasis on launchers and more emphasis on warheads and yield?

Secretary **Weinberger**. Warheads and throw weight. I not only agree with it, that is a view I have held from the beginning. I am delighted they have reached that conclusion.

Senator **Quayle**. So that is the position. We would like to see more emphasis on warheads and, as you have said, Mr. Secretary, really what we are talking about is a reduction, not just an arms control.

Secretary **Weinberger**. In the final analysis, I think the way to measure arms reduction is to measure it by the most effective means, the things you want to most remove. The thing you want to most remove, equalize and balance in the ultimate analysis is throw weight, although yield and accuracy are also a part. They also have to be considered.

But when you just talk about launchers, you are not really doing anything except playing to the Soviets' strength, because they have developed a very high degree of fractionation, and that is one of the reasons they have always been willing to agree to treaties involving launchers only.

Senator **Quayle**. So we should emphasize more on warheads and yields?

Secretary **Weinberger**. I believe that absolutely. I have always believed that.

Senator **Quayle**. Secretary Shultz, do you agree with that?

Secretary **Shultz**. Yes, I do. I think the movement away from launchers toward warheads and throw weight is the right concept.

Senator **Quayle**. And to eventually try to get a limitation or reduction in the number of warheads?

Secretary **Shultz**. Yes.

Senator **Quayle**. It seems the Commission's recommendation——

Secretary **Shultz.** I do not think we should go so far as to get ourselves in the frame of mind of thinking launchers are irrelevant. We would not want to throw the baby out completely.

Senator **Quayle.** No, but it is a change of emphasis. We have always emphasized the launchers and we have not emphasized, although we have discussed it, we have not emphasized yield, throw weight and number of warheads.

Now, under this recommendation, on our land-based ICBM's we are going to the Minuteman II as a single warhead, the Minuteman III with 3 warheads, the MX will have 10, and then we are going back to the Midgetman missile with 1.

And I wonder, to show our concern and that we want to go along with reductions and arms control being an integral part, instead of saying 10 warheads on the MX, why not 5? Would this be acceptable to you as far as showing that from 3 to 10 and then 1, but go to 3, to 5, or say keep it at 3?

Secretary **Weinberger.** Just as soon as the Soviets agree to the same thing in a verifiable way, so that we can maintain the relative balance and equality of throw weight, megatonnage, yield and all the rest, yes, then that would be fine. But when you do it first or when you do not deploy the missile itself, which is the situation we are in now—then you do not get any incentive for them to make that kind of agreement.

Senator **Quayle.** The IOC on this will not be until 1986. We could say, another dual track approach has been suggested here: We are going to go ahead and we are only going to MIRV at five, with the anticipation we are going to go on with a single warhead in the early 1990's, with the anticipation we are going to get some sort of agreement, and we want to see a reduction in the warheads of the Soviet Union.

And if we cannot get that by 1986 we can change that. It is not that difficult to change that from 5 to 10, and I would think that this might be a positive step that we might consider. And we are not going to lose that much. Would we lose that much by going from 10 warheads on the MX to 5?

Secretary **Weinberger.** Senator, I think you lose two things: You lose the ability to recover as quickly as you can the kind of balance we need to maintain deterrence, given the number of warheads in the arsenal of Soviet missiles. And as you know, a lot depends on the range they want to use. They can put them in or take them out.

What you lose is regaining that balance as quickly as possible. You also lose the ability to give any incentive to the Soviets to make the kinds of verifiable reductions needed to achieve a basic equality.

If they would agree to come down to a point where only five warheads were needed to balance out and give us a relatively equal megatonnage and relatively equal number of warheads and a relatively equal yield, throw weight and all the rest, then you might have a situation, if it were fully verifiable, when we could say, yes, we would not need as many warheads on the MX, although the MX would be built for it and designed to it just in case.

But the simple fact of the matter is, we do not have anything remotely resembling an agreement to that, and I do not believe we ever will get that kind of agreement unless we are fully ready to, preparing to actually deploy.

It is very much, as Senator Cohen said in the analogy he drew with the two-track NATO decision for the intermediate——

Senator Quayle. I agree, the issue is deployment, and that is the issue in INF. I do not believe we will get an agreement until we actually deploy.

General Scowcroft said the other day, he put it as the No. 1 thing, the reason to go ahead with this is to show political will. Four administrations said we are going to do it. It is a show of political will.

We are going to have to deploy. We are going to put them in Minuteman silos. And I guess—Secretary Shultz, what could we gain—let me rephrase it.

Could we not gain something by saying we are not going to go to the 10 warheads and just go to 5?

Secretary Shultz. I suppose we might gain a horselaugh from the Soviet Union.

Senator Quayle. In other words, you see absolutely no merit at all?

Secretary Shultz. I think we have to modernize our forces to the best of our ability, that we have to maintain our strength and show a determination to do that. Then we can be present in good faith at the bargaining table, and on the basis of that strength be willing to reduce if they will reduce.

But I think our experience shows—and after all, it is not just the Soviet Union. Commonsense shows you in your own experience, even your day-to-day dealings shows you, if you try to bargain with someone about something and you do not have anything to bring to the party, you will not get very far.

So, I think we have both of these things to bear in mind.

Senator Quayle. I think the most important thing, as I said before, is actual deployment of the missile. I would not think the response would be a horselaugh. I think it might be an open question whether it would be 10, 8, 12, or whatever the number of warheads might be.

I think it is a far more serious issue, and I do want to bring it up, to have a discussion on it. I think it is certainly an open question. I do not think we have to accept everything the Commission said if in fact we go to MX.

The whole debate has been on MX. I agree with some of the other statements here, that arms control is a very, very important recommendation and arms reduction is an important recommendation of this report.

My time is running out. I have a couple of other questions.

SPACE-BASED BALLISTIC MISSILE DEFENSE

I wonder, by embracing the Commission's report, there is absolutely no mention in the future strategic forces of the space-based ballistic missile defense along the lines that President Reagan articulated on March 23. As a matter of fact, in the questioning the other day the panel was very skeptical about the practical utility of such a system.

Now, by the President embracing this Commission's report, not referring to its absence in the report, I wonder, does the present administration plan to place less emphasis on the so-called "Star War's" plan in ballistic missile defense than was stated on March 23?

Secretary **Weinberger**. I am glad you put so-called in front of it, Senator. The answer is clearly no. There is no slight diminution in the President's interest in attempting to secure what we do not now have, and that is a far more reliable defense against incoming ballistic missiles.

It is not mentioned in this context because this is a totally different subject. This is the subject of trying to regain a sufficient degree of strength so we can proceed under that renewed umbrella and strengthened umbrella to start to develop this kind of vastly more reliable ballistic missile defense.

The President made it crystal clear in his presentation, I think, that we do not have it now, but it is an opportunity and a hope for all of mankind if we are able to develop it. We certainly have no reason to believe that, given the things we have developed and done in the last few years that people said could not possibly be achived, that we will not be able to do it. And we intend to devote a substantial effort, and it is a major priority to try to see if we can free the world from the terror of these incoming weapons.

Chairman **Tower**. Senator Quayle, your time is up.

Let me say to all members of the committee, they may submit additional questions for the witnesses to respond to in writing for the record.

Senator Levin?

Senator **Levin**. I wonder, Mr. Chairman, if we could have additional time to do that?

Chairman **Tower**. Yes, we could.

Senator **Levin**. Thank you, Mr. Chairman.

I want to welcome our Secretaries here. Mr. Chairman, as long as I have been in the Senate we have heard that if we are going to proceed with the MX, it ought to be in a survivable basing mode. This administration ran on a platform, as a matter of fact, which called for the deployment of MX in a survivable configuration.

The Secretary of Defense and others have over and over again pointed out that it does not make any sense to put MX in a nonsurvivable basing mode. Quoting our Secretary of Defense a little over a year ago, he said:

> To do that, you would have had a system that is in effect no more survivable than the Minuteman system. It is very difficult to get a survivable ground-based system, but that difficulty we think should not drive us to a decision to produce a system that we know is just as vulnerable as what we have now, but costs an enormous sum without accomplishing anything. We do not think it would add anything to the deterrent quality of our strategic system and we do not think it would add anything to its survivability.

That was our Secretary of Defense in November 1981. About the same time our Secretary said:

> What we think we cannot do is put a vast amount of our resources in a plan that we know is not survivable, even now.

What it seems to come down to is this: This proposal does not close the window of vulnerability; we have been told over and over again by this administration and others and by our experts that nonsurviving warheads increase instability—they increase instability, they increase our danger, they are a threat to our own security, they add more and more of a nuclear hair trigger in times of tension, the nonsuviving warheads add little deterrent.

Putting 10 highly accurate warheads in a fixed hole makes MX an attractive target. It does not deter. It is the opposite. It just makes a first strike against us more likely in times of tension.

Despite all of that, it is now being proposed we spend $6.6 billion to install such a nonsurvivable system. I believe it turns logic on its head.

Those are my opening remarks, and my questions are as follows: First of all, Secretary Shultz. You have indicated, Mr. Secretary, that we have exercised unilateral restraint during the 1960's and 1970's, and we have heard those words regularly from this administration, which may I say now comes to us in the mantle of bipartisanship. It has talked about a decade of neglect.

It is nice to hear about bipartisanship now. I welcome it. I hope that policy continues. But my question to you, Mr. Secretary, is this. You are using the argument that we have exercised unilateral self-restraint, as you put it this morning, in the 1960's and 1970's. Is it not true that we in fact added more strategic nuclear missile warheads and bombs in the seventies than did the Soviet Union?

Secretary SHULTZ. Senator, it is my impression that during the period of the seventies there was a very large buildup and modernization and quality improvement in the Soviet forces across the board and in their strategic capabilities, whereas in our own case we did not do the same thing.

And if you take the key elements of the triad, you can see that fact. You can see that in the case of modernizing our basic land-based missile we have been debating all through this period, unsuccessfully.

When you look at our air-based system, you see that we are flying the same airplanes. And as we look at our submarine-based system, it is now with the prospect of the D–5 that we are getting someplace.

So I think it has been a question of that kind of relative movement.

Senator LEVIN. My question is, is it not true we added more strategic nuclear missile warheads and bombs in the seventies than did the Soviet Union?

Secretary SHULTZ. I will want to respond to that question for the record, because it is a very factual question, and I will provide information on it for you.

[The information follows:]

MORE U.S. WEAPONS IN 1970'S THAN U.S.S.R.

In the decade of the 1970's, both the United States and the Soviet Union added about 4–5 thousand weapons (ballistic missile re-entry vehicles and bomber weapons) to their strategic arsenals, with the U.S. adding only several hundred more than the Soviets. Since 1980, the Soviets have added approximately twice as many weapons as the U.S., 1,400 versus 700.

More significant than the numbers, however, is the fact that the additional Soviet ICBM RVs, particularly given their higher yield and accuracy, now seriously threatens U.S. ICBMs while we do not pose a comparable threat to the Soviets.

Senator LEVIN. We would welcome that.

You said we have been debating through the period while the Soviet Union has been modernizing. Indeed, they have been modernizing, there is no doubt about that. They have been modernizing very, very fast. But so have we, and that is what I am asking you about. I will welcome that answer for the record if you do not have it now.

Secretary SHULTZ. You did not ask me about quality in modernization. You asked me a quantitative question that went across the total range of the triad.

Senator LEVIN. That is correct. Well, let us talk about quality. Is it not true we doubled the yield and destructive power of the Minuteman III warheads by beginning deployment of Mark 12A reentry vehicles during the period in which you say we have been unilaterally restraining ourselves? Is that not true?

Secretary SHULTZ. I will have to respond for the record, Senator.

[The information follows:]

MARK 12A ON MINUTEMAN III

Between 1978 and 1982 the United States replaced the Mark 12 warheads on 300 of our 550 Minuteman III ICBMs with higher yield Mark 12A warheads. No other U.S. ICBM were upgraded in this fashion during the period 1970–1982.

This warhead replacement should be viewed in the context of the Soviet silo hardening program that took place during the same period of time. As you know, the destructive capability of a weapon depends upon the hardness of its target. When the Soviets' silo hardening is taken into account, net U.S. ICBM hard target capability actually declined during the period in question.

Overall U.S. ICBM RV numbers increased by about 1,000 between 1970 and 1982. During this same period, Soviet ICBM RVs increased by over 4,000.

Senator LEVIN. Is it not true we deployed 550 new multiple warhead Minuteman III ICBM's during that period in which you say we exercised self-restraint?

Secretary SHULTZ. I will give you a response.

[The information follows:]

MINUTEMAN III DEPLOYMENT

In the late sixties, in the face of a significant and growing Soviet ABM threat, the United States decided to replace its single warhead Minuteman I and II ICBMs with Minuteman III ICBMs, each with three warheads. The United States found it necessary to take this timely action so that we would be able to assure the credibility of our ICBM forces in view of the growing Soviet ABM threat. The original recommendation for 1000 Minuteman III ICBMs was reduced following the signing of the ABM Treaty in 1972.

From 1975 to the present, the Soviets deployed about 800 new MIRVed ICBMs capable of carrying from 4 to 10 RVs each. These missiles on average are several times more powerful than the Minuteman III. During this same period the United States delayed its one new ICBM, the MX.

Senator LEVIN. Is it not true we upgraded the guidance system of the Minuteman III ICBM's to improve accuracy during that period?

Secretary SHULTZ. I will supply that for the record also.

[The information follows:]

MINUTEMAN III IMPROVEMENTS: INERTIAL GUIDANCE

The Minuteman III guidance system was not upgraded with new inertial systems during the 1970's. The software in the guidance computer was upgraded, but this did not improve its accuracy. The Soviets, in contrast, made major warhead and accuracy improvements in their SS–17, SS–18, and SS–19 ICBM's, such

that the SS–18 Mod 4 and SS–19 Mod 3 are now more accurate than the Minuteman III. It is this combination of increased accuracy and RV numbers that has given them such improved capabilities.

Secretary SHULTZ. No one is saying we stood idly by during this period. However, relatively speaking what we did was vastly different from what the Soviet Union was able to do, and the result is a shift in the relative capability of the two powers, and that is really the main point.

Senator LEVIN. That is exactly what you said, we stood idly by. You said we exercised unilateral self-restraint. The Secretary of Defense said, the fact is we have virtually sat still over the years. That is exactly what both of you have said.

Those words create exactly the wrong impression, and I think an unfair impression, and I am glad you are now saying, "Oh, it is perhaps more relative than that," and you will supply information for the record on the numbers which come from DOD sources—may I say, these are Pentagon figures that I am giving you.

Secretary SHULTZ. I assume they are. I assume you know what you are talking about. And I will respond for the record.

I am not off the top of my head in command of all of these numbers and I do not want to make a statement here that might turn out to be wrong when I do inform myself more completely.

Senator LEVIN. I respect that comment. And I must say, I have great respect for you, Mr. Secretary. But what troubles me is you are willing to say this morning, and on other occasions, that we have exercised unilateral self-restraint. That you are willing to say.

Secretary SHULTZ. Whether it is unilateral self-restraint or simply somehow an inability to come to grips satisfactorily with one question or another, you can debate.

Senator LEVIN. Mr. Secretary, you have also indicated this morning that the fact that we had great nuclear capability was a major factor in the Cuban missile crisis. You say American strategic power was an important element in denying the Soviet Union any credible option to escalate beyond the local level. In the Cuban case we possessed an overwhelming strategic, as well as local, superiority.

I am wondering, Mr. Secretary, if you are familiar with the statement of those American leaders involved at that time, the Secretary of Defense, the Secretary of State, the National Security Advisor to the President, who all said that nuclear superiority contributed little if anything to the Cuban missile crisis? Are you familiar with that history?

Secretary SHULTZ. I am familiar with that, but it makes sense to me that the preponderance that we had must have had some impact and they must have known.

Senator LEVIN. You disagree, then, with the positions and statements of the Secretaries of State and Defense and the National Security Advisor to the President who were there during the Cuban missile crisis?

Secretary SHULTZ. I am giving you my estimate of the situation.

Senator LEVIN. Mr. Secretary, President Reagan has said that all nuclear weapons are on the negotiating table, I understand. Secretary Shultz, does that include the MX missile? Is that a bargaining chip?

Secretary **Shultz**. I do not think it is useful to think in terms of bargaining chips when we consider a question like this as a primary matter. The thing that we have to put first is the impact on our own national security. Having examined that question, we have to say to ourselves, what position does this put us in if we do it or do not do it. When it comes to discussions of arms reductions, in that case it represents one of the things that can be bargained about.

Senator **Levin**. I presume the Midgetman can be bargained about, too?

Secretary **Shultz**. At this point, as Secretary Weinberger said, it is an idea. It is not an active missile.

Senator **Levin**. Does that mean we cannot bargain about whether to proceed with this?

Secretary **Shultz**. I think we can discuss it. And, as Senator Nunn pointed out, it has its implications for general, strategic doctrine.

Senator **Levin**. Do we have any interest in getting the Soviet Union to stop deploying new ICBM's?

Secretary **Shultz**. Stop doing what?

Senator **Levin**. Deploying new ICBM's.

Secretary **Shultz**. Of course we do.

Senator **Levin**. Would it be worth something to us to get them to stop flight testing the one new ICBM permitted under SALT, which they have just begun to test?

Secretary **Shultz**. Well, the question is, if we are going to bargain with the Soviet Union, how are we going to do that? On the basis of what kind of strength on our part are we going to do that?

It would be desirable for them to do all sorts of things. The question is, how will we bring that about? That is what we are engaged in in our discussions in Geneva, and I might say that is what we are engaged in in our own examination of our own defense capabilities.

Senator **Levin**. Do I understand, then, it would be worth something to us to get them to stop flight testing the new ICBM permitted under SALT, which they have just begun to test?

Secretary **Shultz**. As a general proposition, the more they reduce their effort the better off we are.

Chairman **Tower**. Senator Levin?

Senator **Levin**. I think my time is up.

Do I understand that to be a yes?

Secretary **Shultz**. Yes.

Chairman **Tower**. Senator Wilson?

Senator **Wilson**. Thank you, Mr. Chairman.

PEACEKEEPER AS BARGAINING TOOL

Secretary Shultz, you made a statement, with, I think, utmost clarity, which generalizes on the requirement for demonstration commitment, both to adversaries and allies and speaks to the necessity of maintaining the triad as an essential element that gives credibility to our commitment.

I wonder if you could detail for us what you think the failure would be with respect to our allies, specifically our NATO allies, were we not to approve, produce and deploy the Peacekeeper. Specifically, what do you think the impact would be on the INF talks being conducted by Paul Nitze, considering also the statement from General Rowny that he feels it is essential as a bargaining tool?

Secretary **Shultz.** Senator, we are engaged in a sense in a dual track effort in both the strategic and intermediate range areas, the dual track being on the one hand the maintenance and improvement of our strength, as illustrated in various ways—in the case of the INF the Pershing II deployments and in the case of our strategic forces having a capacity to modernize and develop them.

At the same time we are at the bargaining table in both of these cases. I think there is a carryover in a sense from one to the other, as we demonstrate our capacity and our resolve and our willingness to undertake things here in the strategic sense and as we talk in the intermediate sense with our allies and the Russians on the European situation.

Senator **Wilson.** You make the statement:

> We should have learned this fundamental truth. The process of strategic arms control depends absolutely on the demonstrated ability of the United States to maintain the strategic balance.

On the next page you say:

> The Soviets are tough bargainers. They make no compromise for free. Only if they see the United States determined to modernize our strategic forces will they have an incentive to negotiate a verifiable agreement establishing equal lower levels, and only if they see no possibility of achieving superiority will they accede to real arms reductions based upon equality.

Recently Chancellor Kohl was here. You have had contact not only with his government, but also with the governments of our British and Italian allies. How would they view our failure to produce and deploy the Peacekeeper missile?

Secretary **Shultz.** They would certainly be distressed about it.

Senator **Wilson.** What measurable impact do you think that failure would have upon their conduct of foreign policy, not only vis-a-vis the United States, but also in terms of their relationship with the Soviets?

Secretary **Shultz.** Well, of course they have to consider as we do, the importance, basically, of the defense of our values. That is what this all comes down to. We spend an awful lot of time talking about weapons and missiles and so on, but the bottom line is always our values. That is what we care about and that is what this is all about.

So that does not—anything that happens here does not make their values any less important to them. But it must cause them concern if we falter in our resolve to defend them ourselves and on their behalf.

Senator **Wilson.** Secretary Weinberger, do we know with some precision the Soviet level of expenditure being devoted to strategic weapons and to improving their antisubmarine warfare capability?

Secretary **Weinberger.** Oh, yes. They work on that all of the time.

Senator **Wilson.** Is it fair to say that the decision by the United States to deploy, produce, and deploy the Peacekeeper will necessitate some counterexpenditure on the part of the Soviets?

Secretary **Weinberger.** Indeed. That is one of the reasons for it. It is essential that they have to deal with a triad of defensive strategies. If we concluded that the submarine is pretty invulnerable so that is the only one we need, it would simplify their planning problem enormously and would let them concentrate all of their resources on antisubmarine warfare.

And should they achieve a breakthrough in that and should we not have modernized the other parts of the triad, we would be in a very vulnerable, dangerous position. So it is essential that we keep up to date, keep modern, and keep as strong as we can by maintaining a sufficient degree of deterrent strength in all three parts of the triad.

They invest a great deal more than we do in both strategic and conventional arms and have for a number of years. I think they will continue to do so regardless of which government or leader happens to be in power at any given time.

Senator **Wilson**. In your judgment, does the amount the Soviets are spending result in a considerable shortening of time required to achieve breakthroughs? Certainly, from our own experience we know that the amount of effort we put into research in a given area has had different results in terms of the time required to achieve advances.

MAINTAINING AND STRENGTHENING ALL ELEMENTS OF THE TRIAD

Secretary **Weinberger**. I think, Senator, the quick answer to that is, they have an ability to devote more resources and translate those resources into deployed systems far more quickly than we do, not because of any technological skills or superiority, but partly because we have given them so much of our technology or they have stolen it from us over the past few years, but also because their process is such that it is very easy for them to form a consensus or at least to make a decision, whether there is a consensus or not.

And as a result, they have deployed more modern, and in many cases, more accurate systems than we have, and as a result they have increased their megatonnage advantage over us to 2.0 from 1.8.

So that is why these discussions about little improvements we have put into this and little improvements we have put into that are comparatively meaningless. Soviet deployments are creating an imbalance in their favor by eroding our capabilities.

It is essential that we regain our position. To do that we have to proceed to modernize and strengthen all three elements of the triad, as the Commission has said. We unfortunately have to do it all at once, and we must maintain the national will and resolve over the long period of time that it takes to do that.

That is not an easy thing to do, but it is essential, and that I think can be one of the most valuable contributions of this very valuable Commission report.

Senator **Wilson**. My time has just about expired. But to pursue Senator Levin's line of questioning, I would be grateful if, we could have, in effect, a balance sheet comparing quantitatively and qualitatively the advances on the Soviet and U.S. sides.

My final question would be: When you submit that balance sheet for the record, will it not clearly indicate that we are in the deficit position in strategic weaponry, and that the effort made by the Soviets over the past decade has exceeded any legitimate defense requirement?

Secretary **Weinberger**. Yes, Senator. In my opinion it certainly will.

[See questions submitted by Senator Levin, p. 150.]

Chairman **Tower**. Senator Kennedy?

Senator **Kennedy**. Thank you, Mr. Chairman.

Welcome, Secretary Shultz and Secretary Weinberger.

U.S. LAND-BASED SYSTEMS VULNERABLE

Secretary Weinberger, would you say now that our land-based systems are now vulnerable to Soviet attack?

Secretary **Weinberger**. Yes, I think they are far more vulnerable than they should be, Senator. And I think it is important that we strengthen them, because not only are they vulnerable, but even if they were not attacked and were available for use, their accuracy and yield is not sufficient to deal with the Soviet hardened targets.

Senator **Kennedy**. What causes this vulnerability?

Secretary **Weinberger**. The vulnerability arises when the other side develops a degree of strength and accuracy that can destroy or put out of action your ground-based missiles or your submarine-based missiles, or if their air defense is sufficiently strong to deny intrusion of the bombers.

Senator **Kennedy**. If the Minuteman missiles are vulnerable, would not anything else put in their silos be equally vulnerable?

Secretary **Weinberger**. It would be if we just put it there and left it alone. But since we are planning to do substantial developmental work on superhardening and since there have been encouraging developments in the science of hardening in the last few years—actually in the last 2 years—there is no reason to suppose that this or future Congresses would want to leave them vulnerable when they could be made far less vulnerable than they are.

The important thing about them, Senator, is their inherent abilities and capabilities of the Peacemaker missiles themselves which represent a vast improvement over what we have: An improvement that is an essential part of regaining the strategic balance.

Senator **Kennedy**. Is superhardening of silos part of the Scowcroft Commission report?

Secretary **Weinberger**. Yes, they have strongly recommended we look into it.

Senator **Kennedy**. Research I believe was. Was it a recommendation of the report that the 100 missiles be put in superhardened silos?

Secretary **Weinberger**. No, they recommended missiles be deployed immediately into existing silos and starting immediately, as I read it, a substantial amount of research and development work into the concept of superhardening.

Senator **Kennedy**. Regarding the question of whether the Soviets would target missiles on those particular sites in order to overwhelm them—is there any question in your mind that considering the resolve, determination, or resourcefulness of the Soviet Union, these particular sites would be a prime target priority for them?

Secretary **Weinberger**. It already has been. They have already targeted our missile force. They have developed missiles with great strength and accuracy and yield, and they are targeted on our silos, along with other things. There is no question about it. That is why it is essential that we get something targeted on theirs that has comparable accuracy and yield.

Senator **Kennedy**. So it is not fair to say that we would just have a bigger, more accurate, or more threatening missile in the same old silo if we go ahead with the proposal of the Scowcroft Commission?

STRENGTHENING THROUGH MODERNIZATION

Secretary **Weinberger**. That would be the initial result, and the earliest result we can get. The thing that is most essential to do as quickly as we can is to get in the ground and deploy a missile with sufficient accuracy, strength, and yield to deal with Soviet hardened targets.

It is not the intention of the Commission that it simply be left alone there, and it is not the intention of the Commission, as I read it, that that be the only thing we do. They were very emphatic that we keep going on the other parts of the triad by strengthening through modernization. They were very emphatic that we should examine carefully the whole concept of superhardening.

Senator **Kennedy**. We are not, as I understand, considering that today. We are considering in the Armed Services Committtee recommendations made by the administration.

I think there are those who would draw different conclusions from the Scowcroft Commission report. But regarding the Scowcroft Commission proposal for MX it appears to me, as it has been pointed out by other members of the committee, that you are asking to deploy 100 missiles in existing silos that are, as you point out pre-targeted by the Soviet Union. And these missiles would therefore remain sitting ducks, as I understand from both your testimony here this morning regarding the window of vulnerability for land-based systems, a vulnerability that you claim still exists.

It escapes my understanding as to why you and Secretary Shultz believe that the whole question about American determination and resolve, really depends upon deploying those 100 missiles in those particular sites, on which the Soviet Union targets its missiles when American determination and resolve already have been expressed in a number of other ways, through the improvement and upgrading of other aspects of the triad, such as the movement toward Trident, Trident II, the cruise missile, the Mark 12A, the Pershing, and three new nuclear aircraft carriers, and improvement in the whole other range of strategic and conventional forces.

Secretary **Weinberger**. Senator, if I might say so, I think you have not given sufficient credence to the concept of deterrence. You cannot maintain deterrence, which is to prevent the Soviets from using their missiles at all, if the only retaliatory capability you have is ineffective, and known by them to be ineffective, against their hardened targets.

And that is why it is essential that we keep the concept of deterrence, which is maintained through a balance of forces with a retaliatory capability that will be sufficiently strong to deter them from making the attack in the first place. And you cannot do that with missiles that do not have the capability of dealing with their hardened sites.

We do not target populations. We do not do anything except try to maintain the degree of deterrent retaliatory strength that keeps them from launching an attack in the first place. It is a concept that every President has endorsed since the beginning of the nuclear age. It is a concept that has I think prevented war between the superpowers, and it is a concept that I think is desperately urgent we keep before us.

COST OF SILO HARDENING

Senator **KENNEDY**. What is the added cost for hardening? Has that been included in the figures you gave the committee?

Secretary **WEINBERGER**. No. I gave Senator Stennis the figure that we were planning to provide $450 million for the study of the whole concept of the effectiveness of superhardening. How much it would cost thereafter we do not know yet. But it would be something that would develop as we studied the feasibility and effectiveness and indeed the methods for doing it.

With the closely spaced basing concept, the hardening concept was to put each missile in its own canister, and put that canister in a super hardened silo. The degree of hardness that was held out to be obtainable by people who have made major studies of this concept was an enormous improvement in the kind of hardness we have, and gave us something quite capable.

Senator **KENNEDY**. You have no estimate now on what the cost will be for silo hardening.

Secretary **WEINBERGER**. For the actual hardening, no, I do not have any cost estimates.

Senator **KENNEDY**. Can you tell us when they will be hardened?

Secretary **WEINBERGER**. We can certainly see what develops from the examination we make of the whole concept of hardening. I would be very hopeful that we would be able to get a degree of hardness that would add substantial protection in a few years.

Now, bear in mind also, Senator——

Senator **KENNEDY**. How many years?

Secretary **WEINBERGER**. I do not know exactly, but in a few years.

Senator **KENNEDY**. You do not know?

Secretary **WEINBERGER**. Of course we do not know. We have not done the study yet.

Senator **KENNEDY**. That has——

Secretary **WEINBERGER**. If I could just finish.

Senator **KENNEDY**. No, if I could just finish my question.

Secretary **WEINBERGER**. I thought you had.

Senator **KENNEDY**. No, I have not.

Secretary **WEINBERGER**. Listen——

Senator **KENNEDY**. I have not finished with my question. I think you answered the question when you said that you do not know what the cost will be, and you also answered the question when you said that you did not know when you would be able to implement the hardening.

Let me ask you this: Does the deployment of 100 MX missiles in existing Minuteman silos make any sense?

Secretary **WEINBERGER**. Indeed, it makes all the sense. I have been trying to point that out for the last 10 minutes, because it improves our retaliatory capability, which strengthens and regains the deterrent balance.

Senator **Kennedy**. Even though the Soviets have targeted their missiles on these silos?

Secretary **Weinberger**. I am still finishing my answer.

Senator **Kennedy**. I thought you had.

Secretary **Weinberger**. No, not quite. [Laughter.]

It is essential that we do that. But it is also essential to bear in mind, with the hardening that the preliminary studies we had in connection with the closely spaced basing mode revealed, gives us substantial encouragement that we would be able to deploy super-hardened capability at the time of MX IOC in 1986.

I do not want to give you that specific figure this morning with the MX missile in these silos, because that involves closely spaced basing, and the construction of new silos. But I think it is within that range of time and I think it is something that certainly the Commission urgently requested we pursue.

But that capability of hardening is also applicable to the small missile, as the mobility and the hardening of the missile are normally factors that would relate to that. So all of this is part of a much bigger picture, Senator.

Chairman **Tower**. Senator Kennedy, your time is up.

Senator Bingaman?

Senator **Bingaman**. Thank you, Mr. Chairman.

Let me just ask a couple of questions. I appreciate you gentlemen staying to hear these questions.

NUMBER OF WARHEADS PER LAUNCHER OR MISSILE

First I would like to focus on this question of what our policy is on the number of warheads per launcher or missile. As I understand it, the Commission's report contains a recommendation that we move toward fewer warheads per launcher, and that your testimony is that that is in fact the administration's position as well. Is that accurate?

Secretary **Weinberger**. Senator, I think you must be clear about the phasing of this. The Commission's recommendation was that you take the existing MX missile with its 10 warheads, get it in the ground to regain the deterrent capability as quickly as possible, and then spend a substantial amount of effort, which we are fully in agreement should be done, to see if the development of a small missile, which would have one warhead, would lend itself to mobile and other characteristics, And there is very considerable reason to hope it would.

But it was not that we not deploy the MX immediately or that we move away from that concept. It was that we deploy it immediately. It is here and ready to be flight tested within a couple of months. And then we spend the time trying to develop this as yet undeveloped concept of the new single warhead missile.

Senator **Bingaman**. Is it accurate to say the long-range arms reduction policy of the country as you have stated it today is to move to fewer warheads per missile?

Secretary **Weinberger**. That would certainly be an objective I would want to pursue, but we would have to bear in mind it would require a major reversal by the Soviets. And we would want very much to urge them to make this major reversal and pursue that line, because if both sides would come down to single warhead missiles you would have reduced, I think, a lot of tensions and increased stability.

START PROPOSALS

Senator **Bingaman**. Let me ask about the START proposal that the administration has. As I understand it, speaking in rough figures we have approximately 7,500 warheads now on about 1,500 launchers, which is a 5-warhead-per-launcher ratio, and we have proposed in the START proposal that we go to about a 5,000-warhead for 850 launchers, which is in fact more like a 6-to-1 ratio.

So we are proposing to move to a situation of more warheads per launcher than we have today in our START proposal, is that accurate?

Secretary **Weinberger**. No, sir. I think what we are talking about is a change in concept which the Commission has recommended for the future, which is that we should move and try to persuade the Soviets to move toward a small single-warhead missile. These would have lower target values and they would add substantially, we believe, to the stability of the situation if they would agree to do that.

The START proposals were proposals the President made with an idea of trying to secure an immediate reduction down to equality from a situation that had developed, I think it is fair to say, quite adversely for us. So that you do have concepts in the START proposal that, as the Commission has said, might well have to be changed and revised from the point of view of trying to secure the objective of having both sides use a small single-headed missile.

Senator **Bingaman**. As I understand it, you are saying possibly the ratio between the number of warheads and the number of launchers is something we would have to rethink in light of the Commission's recommendation?

Secretary **Weinberger**. If indeed you can get both sides to pursue the idea of a single missile, then the two merge, because a launcher is a warhead. It is one to one.

BUILDDOWN PROPOSAL

Senator **Bingaman**. Let me ask you also, in response to a question Senator Cohen put to you about the builddown proposal I believe he, Senator Nunn and some others are sponsoring, your statement was that is in fact what we are trying to engage in at this point, a builddown. Is that accurate?

Secretary **Weinberger**. Yes, sir. To some extent we have already unilaterally done that in the number of withdrawals we have made and are making, particularly with respect to the Titan.

But basically the idea is, Senator, that what we want to do is reduce substantially the totals on both sides down to the point where you achieve levels of equality much lower than we have now, and that they be fully verifiable. And to the extent anyone wants to call that a builddown, that is fine. I would agree, that is what we ought to be doing.

Senator **Bingaman**. Let me ask you as to the specifics of what the administration is proposing in the next 5 years. As I understand it, even if the MX and Midgetman were not authorized by the Congress, the proposal is that we add 100 B–1 bombers which have been authorized 3,000 air-launched cruise missiles, 500 sea-launched cruise missiles, 6 additional Tridents, each carrying 24 missiles with 8 warheads apiece, 108 Pershing missiles, and 462 ground-launched cruise missiles.

The total as I add that up is that we would be adding, under what the administration is engaged in now, something between 5,000 and 6,000 warheads in the next 5 years, even without the MX. Is that an accurate description?

Secretary **Weinberger**. No. That is not an accurate net description, Senator.

Senator **Bingaman**. You are not taking out the Trident II?

Secretary **Weinberger**. The numbers you are proposing are additions or substitutions for existing, less effective weapons. So, in the 1990's you would not leave all the existing submarine missiles that we now have when we get the D–5. You would not leave the 100 Minuteman missiles if the MX proposal is adopted. You would not keep in service all of the B–52's, after B–1B and the Stealth bomber are deployed.

So, in the long run, you would not be adding net anything like those numbers but you would be modernizing, strengthening, and improving the retaliatory capability.

Senator **Bingaman**. Could you provide, for the record, in your opinion, an accurate description of what we would be adding, even after you subtract all of those things, during the 5 years?

Secretary **Weinberger**. Yes, sir, I would be glad to do that.

[The information follows:]

NUMBER OF STRATEGIC SYSTEMS

The President's strategic modernization program is not designed to increase the total number of the strategic systems. It is designed to give the United States a deterrent force by replacing outmoded systems with new ones that are more effective, survivable, and reliable. To be specific:

Since 1967, the United States has maintained a force of no more than 1,054 ICBMs. The 54 Titan missiles are now being deactivated. The MX Peacekeeper ICBM, to be deployed in hardened Minuteman silos, will replace the Titan missiles and the Minuteman missiles already in the silos.

Since 1972, the United States has maintained a force of no more than 656 SLBM launchers, with the current total at 568. 160 Polaris launchers have been deactivated since agreement on the SALT II Treaty, although about half of these still count under SALT rule. Trident submarines will maintain our force level until older Poseidon submarines reach the end of their thirty-year hull life in the early 1990s.

At the signing of the SALT II Treaty, the United States declared a force of 574 heavy bombers—active inventory plus those in storage/retirement. The active force is now at 297 with the retirement of B–52C/F/D bombers and attrition of B–52G/H and FB–111 bombers. The 100 B–1B bombers now being procured are replacements for some of the B–52C/F/D bombers already deactivated. When they become available in the 1990s, Advanced Technology (Stealth) bombers will begin to replace the remaining B–52s.

As the strategic modernization program evolves the continuing replacement of systems aging out, the total number of strategic systems would not exceed the 2,250 limit provided by SALT II.

Senator BINGAMAN. That is really all I had, Mr. Chairman.

Chairman TOWER. Thank you.

I want to thank Secretary Weinberger and Secretary Shultz for appearing today and making a very comprehensive contribution to the record we are building on this issue. Gentlemen, thank you.

Secretary WEINBERGER. Thank you very much again, Mr. Chairman, for a very courteous and fair hearing. Thank you, sir.

Chairman TOWER. This will conclude our hearing for today. Members who wish to submit questions in writing for a response for the record to the witnesses today will please submit those by the close of business tomorrow afternoon. The hearing is adjourned.

[Questions with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR CARL LEVIN TO SECRETARY OF DEFENSE CASPAR WEINBERGER WITH OFFICIAL REPLY BY THE DEPARTMENT OF DEFENSE

RATIONALE FOR SILO-BASING

Senator LEVIN. When this administration rejected the last administration's plan to deploy MX in multiple protective shelters (MPS), it did so on the basis of the fact that the system was too expensive and not survivable. On October 5, 1981, you said: "It does not buy us a permanent solution to the problem of ICBM vulnerability, and it uses up the resources that would be available for other systems".

Doesn't the President's decision to deploy MX directly contradict these statements?

If basing MX in a non-survivable MPS system "costs an enormous sum without accomplishing anything" and does not add anything to "the deterrent quality of our strategic system" and "to its survivability," why should basing 100 MX in vulnerable silos for $14–17 billion not yield any different results?

ANSWER. Significant changes have occurred since October 1981 that make reasonable a different view of how to base the MX, now Peacekeeper, missile. As you well know, we launched a comprehensive strategic modernization program at that time. Now, over a year and a half later, we know that we have made very good progress in crucial development areas such as cruise missiles, strategic bombers, the Trident II D–5 SLBM, and the Peacekeeper ICBM. We can all be very thankful for the excellent progress made. One of the important benefits is reduced pressure on the role we foresaw in October 1981 for the land-based ICBM. We now believe that we were expecting too much from a single weapon system and that we should take a bit more credit, as it were, for the survivability and effectiveness of the Triad as a whole. What we expect from deployment of Peacekeeper in Minuteman silos is elimination of a serious deficiency in our national security—lack of prompt hard target kill capability. In providing this capability, Peacekeeper will contribute significantly to deterrence by providing the means to disrupt a Soviet first strike. The threat of that disruption, brought about by destruction of hardened C^3 facilities and ICBM silos, introduces significant uncertainty in the Soviet mind concerning the probable success of a Soviet first strike. It is that uncertainty that will deter a rational enemy from attacking. This deployment of Peacekeeper will also demonstrate our resolve to respond to increases in the threat. No enemy must be allowed to think he can achieve a superiority so great as to give him coercive power over us. We also believe that, without the deployment, the Soviets have no incentive to join us in negotiating the strategic arms reductions we hold so dear. We regard the $16.6 billion cost of that deployment to be an excellent buy and we hope the Congress will agree.

SPENDING ON NON-SURVIVABLE BASING

Senator LEVIN. Why are you willing now to "put a vast amount of our resources in a plan that we know is not survivable even now" and certainly "does not buy us a permanent solution to the problem of ICBM resources, and it uses up the resources that would be available for other systems?"

Answer. We now believe that we were expecting too much in October 1981 from a single weapon system and that we should take a bit more credit, as it were, for the survivability and effectiveness of the Triad as a whole. What we expect from deployment of Peacekeeper in Minuteman silos is elimination of a serious deficiency in our national security—lack of prompt hard target kill capability. In providing this capability, Peacekeeper will contribute significantly to deterrence by providing the means to disrupt a Soviet first strike. The threat of that disruption, brought about by destruction of hardened C^3 facilities and ICBM silos, introduces significant uncertainty in the Soviet mind concerning the probable success of a Soviet first strike. It is that uncertainty that will deter a rational enemy from attacking. Given the demonstrated Soviet re-load capability, destroying even empty silos has military value. The deployment of Peacekeeper will also demonstrate our resolve to respond to increases in the threat. No enemy must be allowed to think he can achieve a superiority so great as to give him coercive power over us. We also believe that without this deployment, the Soviets have no incentive to join us in negotiating the strategic arms reduction we hold so dear. We regard the $16.6 billion cost of that deployment to be an excellent buy, and we hope that Congress will agree.

SURVIVABILITY OF SILO-BASED PEACEKEEPER

Senator **Levin.** In defending this administration's programs to deter nuclear attack by the Soviets you told the House Defense Appropriations Subcommittee on August 17, 1981:

"That is exactly why we must have a capability for a survivable and enduring response—to demonstrate that our strategic forces could survive Soviet strikes over an extended period. Thus we believe we could deter any attack. Otherwise we would be tempting them to employ nuclear weapons to try to blackmail us. In short, we cannot afford to place ourselves in the position where the survivability of our deterrent would force the President to choose between using our strategic forces before they were destroyed or surrendering."

How does employing MX in vulnerable Minuteman silos give us the capability you say we must have—"a capability for a survivable and enduring response—to demonstrate that our strategic forces could survive Soviet strikes over an extended period?" How long do you think these non-survivable silos with MX will "endure"—30 minutes?

Answer. Two factors have emerged that allay our concerns about the vulnerability of deploying the Peacekeeper missile in Minuteman silos: First is the significant progress that has been made into hardening technology which gives us high confidence in our ability to harden these silos to improve their survivability. Second is the value of our strengthening and modernization of the other legs of the Triad which severely complicate the Soviet planner's task of allocating the use of his missiles.

What we expect from deployment of Peacekeeper in Minuteman silos is elimination of a serious deficiency in our national security—lack of prompt hard target kill capability. In providing this capability, Peacekeeper will contribute significantly to deterrence by providing the means to disrupt a Soviet first strike. The thrust of that disruption, brought about by destruction of hardened C^3 facilities and ICBM silos, introduces significant uncertainty that will deter a rational enemy from attacking.

PEACEKEEPER SURVIVABILITY

Senator **Levin.** Doesn't the non-survivability of MX in Minuteman silos, as you have said, "force the President to choose between using our strategic forces before they were destroyed"? Do you consider 30 minutes to be an "extended period"?

By your own definition, are we "tempting them (the Soviets) to employ nuclear weapons or try to blackmail us" by this type of deployment?

Answer. The President's ICBM modernization program calls for the deployment of the Peacekeeper in Minuteman silos as the quickest means of restoring the retaliatory effectiveness of our ICBM force. To resolve the survivability weakness, the program recommends development of a small ICBM and vigorous R&D work on such missile basing technologies and concepts as mobility, silo hardening, fratricide, deep basing, and ballistic missile defense. The result of this effort will be an ICBM force which derives enhanced survivability from its basing diversity as well as from the targeting dilemmas which an effective, modernized Triad poses for Soviet strategic planners.

In addition, it should be noted that with the ongoing programs to modernize our submarine and bomber forces, our strategic forces as a whole will retain effective survivability while the ICBM force undergoes modernization.

IMPACT OF DEPLOYING PEACEKEEPERS IN MINUTEMAN SILOS

Senator LEVIN. Mr. Secretary, in your Fiscal 1983 Annual Defense Report, or Posture Statement, you told the Congress the following (last February):

"The United States will maintain a strategic nuclear force posture such that, in a crisis, the Soviets will have no incentive to initiate a nuclear attack on the United States or ~~our~~ allies. U.S. forces will be capable under all conditions of war initiation to survive a Soviet first strike and retaliate in a way that permits the United States to achieve its objective. Nuclear weapons systems will not be funded merely to make our forces mirror Soviet forces according to some superficial tally of missiles or aircraft deployed in peacetime. Obtaining a facade of symmetry between United States and Soviet forces in terms of such simplistic counts is not a requirement for which I would allocate scare defense dollars. Instead, our goal will be to gain and maintain a nuclear deterrent force which provides us an adequate margin of safety with emphasis on enduring survivability."

In testimony to our Committee on February 2, 1982, you discussed your strategic program by saying:

Our ——— incentive for surprise attack is substantially reduced.

Doesn't deploying MX in non-survivable silos not only increase this crisis instability and incentive for a Soviet surprise attack that you worried about, but doesn't it also represent a proposal to "mirror Soviet forces according to some superficial tally and to obtain a facade of symmetry" in ICBM hard target kill.

ANSWER. By deploying 100 Peacekeeper missiles we are not attempting to mirror image the Soviet force, but to provide an effective counterbalance to the Soviet Union's current destabilizing monopoly in prompt hard-target capable systems. A United States ICBM force capable of matching Soviet capabilities would require the deployment of a much larger Peacekeeper force than the President's program recommends.

By deploying the Peacekeeper, our ICBM force will have the capability to retaliate effectively and promptly against Soviet high value assets. The realization on the part of the Soviets that our ICBM force maintains this capability will reduce potential Soviet incentives for aggression in time of crisis and thus, strengthen deterrence.

PEACEKEEPER SURVIVABILITY

Senator LEVIN. Since the MX will be deployed in vulnerable silos, and the Scowcroft Commission admits they will be vulnerable silos, is it not true that they only can be used effectively if we launch a first strike, or if we launch them after we have received unambiguous warning of an attack or after Soviet warheads already have been hitting the United States.

If we do not launch first, or launch on warning or under attack, our MX will be destroyed and thus be useless to us for any type of counterattack. Doesn't that mean we are adopting either a dangerous first strike policy or a risky launch on warning or under attack policy?

ANSWER. Survivability is not an absolute concept. Like the sea- and air-based legs of the Triad, ICBM survivability is dependent on specific attack scenarios. Moreover, ICBM survivability cannot be adequately assessed outside the context of the Triad. Soviet efforts to maximize the effectiveness of their attack against one leg of the Triad, only serves to increase the survivability and effectiveness of the other legs.

Senator LEVIN. If we do not launch first or launch on warning or under attack, there will not be enough MX missiles remaining to strike back in any limited or controlled way at all the remaining—or even many of the remaining—Soviet hard targets, the alleged justification for the MX by the Scowcroft Commission, is that not so?

ANSWER. Soviet efforts to maximize the effectiveness of an attack on the ICBM force, a risky endeavor in itself, would increase the retaliatory effectiveness of the other elements of the Triad. It should also be noted that the President's ICBM modernization plan calls for the development of a small missile, and R&D on mobility, fratricide, silo hardening, deep basing and ballistic missile defense to enhance the independent survivability of the ICBM force. These efforts will further erode Soviet confidence in their ability to mount a successful attack against the United States and our allies.

USE OF SURVIVING WARHEADS

Senator **Levin**. In the "worst-case" scenarios upon which we build our nuclear exchange studies, only between 5 and 10 MX might survive if they do not launch first or on warning or under attack. Of what use will only 50 to 100 MX warheads be in trying to retaliate against the thousands of Soviet hard targets we would want to strike back against?

Answer. The use we hope and expect to make of Peacekeeper is not to use it at all—only in that way will it achieve its real purpose of deterrence. What the Soviets must contend with is a Peacekeeper missile that can disrupt carefully planned attacks by destruction of the hardened C^3 and leadership facilities needed for execution and follow-up.

NEED FOR PROMPT HARD TARGET KILL CAPABILITY

Senator **Levin**. Members of the Scowcroft Commission have testified that we need MX because its prompt hard target kill capability is needed to be able to strike back against the Soviets within the first 30 minutes of a strategic nuclear war instead of between 2–4 hours, when DOD estimates submarine launched hard target weapons will arrive to destroy Soviet silos or command posts or in 8–10 hours, when DOD estimates our bomber-delivered bombs and cruise missiles could arrive to destroy these hard targets.

Answer. That is correct, and the reason for this position of the Scowcroft Commission, which is now the administrations position, is as follows:

In providing this capability, Peacekeeper will contribute significantly to deterrence by providing the means to disrupt a Soviet first strike. The threat of that disruption, brought about by destruction of hardened C^3 facilities and ICBM silos, introduces significant uncertainty in the Soviet mind concerning the probable success of a Soviet first strike. It is this uncertainty that will deter a rational enemy from attacking in the first place.

There are, of course, additional reasons for deployment of Peacekeeper in Minuteman silos that have to do with demonstrating our national resolve to remain strong and with providing incentive for the Soviets to negotiate real arms reduction agreements.

EFFECTIVE RETALIATION AND DETERRENCE

Senator **Levin**. Let me outline a typical strategic nuclear war scenario for you: Thousands of Soviet RVs have struck the United States and, in addition to destroying our ICBM silos, bomber bases and submarine ports, have killed between 10–20 million Americans. The United States, in response, has launched its few surviving ICBM weapons against some Soviet hard targets and hundreds, if not thousands of submarine launched warheads against soft military targets. More than a hundred United States bombers are winging their way toward the USSR with thousands of bombs and cruise missiles capable of striking hard targets. Nuclear explosions are going off all over the United States and the Soviet Union between the first 30 minutes when the Soviet warheads hit and the 30 minutes to 2–4 hours when our first ICBM and submarine warheads retaliate. Mushroom clouds and radiation befoul the atmosphere and millions of Russians are dying just as fast as millions of Americans.

In all the chaos and confusion of this hell on earth, do you really think that the leader of the Soviet Union is going to rationally pick up the telephone or whatever hot line is left and call whatever leader of the United States he can find who might have survived his first attack—all after the first 30 minutes to 2–4 hours of the war—and ask him to surrender and call off his bombers because unless we do, he will hit us again with more ICBMs?

Answer. To deter war effectively, our strategic forces as a whole must clearly be able to retaliate effectively against the full range of Soviet high value assets, regardless of the scope, duration or intensity of conflict. If we maintain this capability, there could be no circumstance which the Soviets might come to believe, in a time of crisis, could be exploited for military or political benefit. Deployment of the Peacekeeper is essential to the maintenance of this capability.

STRATEGIC FORCE MODERNIZATION AND DETERRENCE

Senator **Levin**. If a Soviet leader wanted to make such a threat, what addition targets could he hit in the United States to obtain some military or political benefit from without striking any targets located close enough to cities to threaten both sides with the mutual suicide, counter city exchange which is the ultimate, mutually assured destruction threat under which we and the Soviets both live? He already has struck our bomber bases, sub ports and missile silos. What other hard targets in the United States are left for him to strike in a limited, controlled way?

Answer. The modernization of our strategic forces, including the ICBM force, will eliminate any possibility that the Soviet Union could come to believe that any options to threaten or coerce the United States or our allies are available to them. It is this elimination of options available to potential aggressors that lies at the heart of deterrence.

PEACEKEEPER AND HARD TARGET CAPABILITY

Senator **Levin**. If he can exert further blackmail or military advantage from striking our unhardened military facilities for conventional forces, or key industries, why couldn't we gain the same benefits from hitting his, during those first hours of chaos? And we certainly do not need MX ICBM warheads to do that. We can use sub launched RVs and certainly do not need the MX for that, correct?

Answer. The United States has the capability of retaliating against a range of non-hardened Soviet military assets with its current force. What our strategic forces lack is the ability to retaliate promptly and effectively against critical, hardened Soviet assets such as ICBM silos and command and control facilities. This is a dangerous weakness in our deterrent capability which the Peacekeeper is designed to remedy.

SOVIET USE OR LOSE

Senator **Levin**. Regardless of whether we strike back within 30 minutes with ICBM hard target warheads or 8–10 hours with hard target kill bombs and cruise missiles, why do you think the Soviet Union will wait for our weapons to destroy their weapons before launching them in a second strike in the classic "use or lose" tactic?

Answer. What we expect from deployment of Peacekeeper in Minuteman silos is elimination of a serious deficiency in our national security because of the lack of prompt hard target kill capability. In providing this capability, Peacekeeper will contribute significantly to deterrence by providing the means to disrupt a Soviet first strike. The threat of that disruption, brought about by destruction of hardened C^3 facilities and ICBM silos, introduces significant uncertainty in the Soviet mind concerning the probable success of a Soviet first strike. It is that uncertainty that will deter a rational enemy from attacking in the first place.

RETALIATORY UTILITY OF PEACEKEEPER

Senator **Levin**. When the Soviets do that, the MX warheads we have will be of little military effectiveness when they hit empty Soviet silos in the ground—silos just vacated by a second wave of Soviet missiles, is that not so?

Answer. Targets for retaliating Peacekeeper include hardened C^3 and leadership facilities essential to prolongation of the war and silos with withheld missiles.

PEACEKEEPER'S CONTRIBUTION TO DETERRENCE

Senator **Levin**. If you believe that MX is necessary to be able to engage in limited strikes and counter-strikes against the Soviet Union in the first 8–10 hours of the chaos of a strategic nuclear war before our hard target kill bomber weapons arrive—with our present forces—or within 2–4 hours after 1989 with Trident II sub weapons and 8–10 hours with bomber weapons—how many con-

trolled Soviet attacks and limited United States response do you envision during that period? If you cannot tell us that, how can you tell us that 100 MX are enough—too much—or too little—to be able to engage in this limited "tit **for tat" war with the Soviets"?**

ANSWER. To deter successfully, it is essential that the Soviets not believe that their forces enjoy an exploitable advantage over United States deterrent forces. The fact that the United States lacks a prompt hard target capability offers Soviet planners the luxury of knowing that, for the crucial first few hours of a nuclear conflict, the bulk of their ICBM force and supporting command and control structure would remain largely immune to United States retaliation. This removes a major source of Soviet uncertainty which in turn reduces the effectiveness of deterrence. The deployment of 100 Peacekeeper missiles is sufficient to restore the crucial uncertainty in the Soviet Union's calculations of likely war outcomes without posing a first strike threat to Soviet forces.

PEACEKEEPER AS A SOURCE OF PROMPT, HARD TARGET CAPABILITY

Senator LEVIN. Mr. Secretary, if you have not established such policies, how can you convince Congress and the American people that it makes a meaningful military or political difference in the midst of a thermonuclear war that the United States have increased capabilities to hit Soviet hard targets within 30 minutes—i.e., to buy the MX—instead of the present and future hard target kill capabilities it will have to destroy these targets within 30 minutes, to 2–4 hours, to 8–10 hours, with the forces we already have or plan to have, without the MX?

ANSWER. We do not use any simple mechanistic process to determine how the United States should respond to potential Soviet attacks, precisely because the Soviets are capable of conducting a wide range of such attacks. Our policy of flexible response is based on deterrence, and seeks to provide the President with a range of options available to respond to whatever level of aggression confronts us. The United States currently has no credible prompt hard target capability in its strategic forces. The possession of such a capability is a crucial ingredient of an effective deterrent. Consequently, our forces must be provided with this essential capability as soon as possible. Deployment of the Peacekeeper in late 1986 represents the quickest, most effective means available to us of acquiring a prompt, hard-target capability.

PEACEKEEPER AND DETERRENCE

Senator LEVIN. Before he joined the Commission, your predecessor as Secretary of Defense, Dr. Harold Brown, discussed the issue this way:

"There are many, many different alternatives that we can take under those circumstances if the Soviets were to shoot just at our Minuteman, assuming that we didn't fire back before they were destroyed. In that case, we could hit their urban industrial complexes, we could hit their conventional military forces, we could hit their nuclear forces. The only thing that is missing from this scenario is the ability to hit their strategic ICBMs within half an hour or an hour instead of 10 hours. I submit that that is not a central issue in the midst of a catastrophic thermonuclear war."

Isn't it true this still remains the case today, thus obviating the need for the MX?

ANSWER. Deterrence is most secure when an aggressor knows that, regardless of the intensity, scope, or duration of aggression he may contemplate, he could expect no military or political gains. This expectation of failure has been the central tenet of deterrence since the 1940s. The last three Administrations have recommended deployment of the Peacekeeper missile for the purpose of maintaining Soviet expectations of failure. As Harold Brown stated recently:

"They [Soviets] must be in no doubt at all that whatever kind of nuclear attack they might launch, the U.S. response would leave them worse off. To meet this objective, it is important for U.S. nuclear forces to be able to threaten retaliation against the assets that the Soviet leaders appear to prize—their urban-industrial society, their nuclear and conventional military forces, the hardened shelters that protect their political and military control centers as well as their own lives. The modernization of the U.S. ICBM force is critical to this task of maintaining deterrence. I, therefore, support the recommendations on ICBM modernization made by the Presidential Commission on Strategic Forces."

NEED FOR THE PEACEKEEPER

Senator LEVIN. Since the military utility of prompt hard target kill missiles is extremely in doubt, and since their political utility either during such a war or in international crises must therefore be discounted, doesn't the Administration's decision to deploy MX really boil down to it just wanting to have a missile as big as some of the newer Soviet missiles, regardless of whether we need those missiles because of all our other forces and the Minuteman III's themselves. Doesn't it mean we are trying to match Soviet ICBM capabilities not because we need to, with all our other systems, but because they are not ICBM's? Aren't we playing a foolish game of one-upmanship with the ICBM's, which not only is not needed for military or diplomatic purposes and is not very useful for them, but which only drives the arms race even higher and increases, rather than decreases, nuclear instability?

ANSWER. Deployment of the Peacekeeper is necessary to provide the United States deterrent force with the ability to promptly and effectively retaliate against the full range of Soviet high value assets and to end the current destabilizing Soviet monopoly in prompt hard target capability. In addition to the saluatory effects Peacekeeper deployment will have on deterrence, it also will favorably influence international perceptions of the United States and its status relative to the Soviet Union and restore the strategic balance which is essential to the realization of a meaningful, equitable arms reduction agreement with the Soviet Union. Furthermore, an effective ICBM force is crucial to maintaining a strong strategic Triad, which has been the backbone of our deterrent capability for over 20 years.

QUESTIONS SUBMITTED BY SENATOR CARL LEVIN TO SECRETARY OF STATE GEORGE SHULTZ, WITH OFFICIAL REPLY BY THE DEPARTMENT OF STATE

Senator LEVIN. Have the Soviets tested two new missiles as defined under the terms of the SALT II Treaty and its associated documents?

[Deleted.]

Answer. We have raised our concerns wih the Soviets, underscoring the seriousness with which we view them. The February 8 test provides further evidence that the SALT II Treaty is not an acceptable basis for a long-term strategic arms agreement. We are determined to do better in START.

Senator LEVIN. If they have, or when they do, is it the US's intention to raise this issue in the Standing Consultative Commission?

Answer. [Deleted.]

Senator LEVIN. Have you been informed by any of the heads of government of the NATO nations which are INF deployment sites about their position on whether cancellation of the MX missile would interfere with deployment of our Pershing II missiles and Ground Launched Cruise Missiles in their nations? Who has so informed you, when, and what, specifically, did they say in this regard?

Answer. No Allied government has officially drawn a connection between cancellation of the M-X and Perishing II and GLCM deployments in Western Europe. However, it is clear that the European peace movement would seize upon this as an important example of how the United States was allegedly asking Europe to do more than the United States was itself willing to do. It would be wishful thinking to believe that this argument would not have an impact on Western European electorates.

Senator LEVIN. What complaints have we brought before the SCC, when, and what was the resolution of them?

Answer. A number of issues have been raised on each of the 24 meetings of the SCC, since its first meeting in mid-1972. It is not possible to provide an unclassified report on these issues for reasons of security and because, by United States-Soviet agreement, SCC discussions are private. In October 1982, however, the Director of ACDA sent classified documents to the Senate Select Committee on Intelligence in response to Congressional inquiries regarding the record of Soviet compliance with SALT agreements. These documents provide a record of many of the issues the United States has raised in the SCC and their resolution.

Senator LEVIN. Are survivable hard target kill strategic weapons systems stabilizing, especially in a crisis? Is the converse true—are nonsurviving hard target kill strategic weapons systems destabilizing?

Answer. The answers to these questions depend upon the broader context in which such weapons are deployed and the political and military objectives one seeks. Before the late 1970's, neither side had a prompt hard target capability. That era has passed. At present, the Soviets have a virtual monopoly in such capability. Our deployment of MX will demonstrate to the Soviets that a portion of their hardened facilities, including some ICBM silos, can be put at risk, thereby enhancing deterrence. If this persuades the Soviets to abandon their over-reliance on large MIRV'd ICBM's—and we believe it will—then the MX deployment will contribute to our objective of a more stable strategic balance.

Senator Levin. The Administration contends that if we do not deploy MX, our allies in Europe will think we no longer are willing to maintain our land-based leg of the Triad and are no longer [willing] to risk our homeland in a strategic nuclear war.

Since the Minuteman III's will last until at least the year 2000, and since the Soviets will have to strike these as well as United States-based bomber bases and submarine ports in any first strike—killing millions of Americans—why do you think this risk to the United States is any less without MX?

Answer. The Administration does not contend that failure to deploy MX would mean that Europe will think that we are unwilling to maintain the land-based leg of the triad and are no longer willing to risk our homeland in a strategic nuclear war. We do believe, however, that failure to deploy MX—the first new type of U.S. ICBM in over 16 years when deployed—would adversely affect European, and Soviet, perceptions of our national will and cohesion that are essential to effective deterrence. Additional doubt and concern will continue to cloud our ability to assure our allies that we do have the will and capability to redress important military imbalances through modernization. Maintaining an essentially static ICBM force in the face of vigorous and continuing Soviet ICBM modernization thus would increase our security problems.

Senator Levin. Since we already plan to maintain Minuteman until at least the year 2000 and could maintain it to last into the 21st century, according to the AF, doesn't this also undercut European fears we are abandoning the ICBM leg of the Triad?

Answer. Failure to modernize the ICBM leg of our triad, and thereby to allow the Soviets to continue with their near monopoly in prompt hard target capability, would weaken European confidence in our commitment to maintain a modern and credible deterrent in the face of a determined Soviet challenge. The longer we are forced to maintain our existing missiles without modernization, the more difficult it will be to preserve their reliability, and this will affect perceptions about their effectiveness.

Senator Levin. Doesn't R&D on Midgetman further demonstrate the commitment we have to ICBM's.

Answer. Only in the context of a demonstrated willingness to reap the fruits of our research. If we demonstrate that ICBM R&D expenditures offer little likelihood of deployment, as cancelling MX would do, then we undercut whatever signal of commitment that small ICBM R&D funding would have.

Senator Levin. In a special memorandum to me, the Library of Congress concludes that a Congressional decision to cancel MX could have little, if any, negative impact on European willingness to deploy our GLCM's and Pershing II missiles. It even could have a positive effect in Europe according to CRS. Don't the following CRS conclusions rebut this administration's attempt to link MX deployment with the INF deployments:

> If, however, the Congress made clear in rejecting the MX that it was committed to development of another land-based strategic missile system, anti-nuclear forces in Europe would derive little in the way of encouragement, and governments would be in no worse a position to proceed with new INF deployments.
>
> For example, if the Congress, in rejecting the MX, articulated a preference for a smaller, single-warhead, mobile missile system, most of the potential European concerns might be allayed. Such a choice would likely be viewed quite positively by all but the most committed anti-nuclear forces. A mobile, land-based intercontinental system could be seen as very similar to the mobile land-based INF systems. The decreased vulnerability resulting from mobility would be viewed as more stable in a strategic context than the inviting target presented by the MX missiles. The single-warhead approach would also be seen as a step toward greater stability in strategic nuclear forces and away from disabling first strike postures.
>
> Finally, congressional action on the MX is by no means the most important variable in the INF deployment equation. The governments of the three NATO countries (West German, British, and Italian) where deployments are sched-

uled to begin in December 1983 will not likely range on their commitments. There will be protests against the deployments in any case, and perhaps, active attempts by a minority of anti-missile forces to impede installation of the missiles. But the extent of the protests and the degree of public opposition will depend much more on the credibility of Reagan Administration attempts to negotiate limits on such systems with the Soviet Union, than on congressional acceptance or rejection of the MX missile.

Answer. We certainly agree that "congressional action on MX is by no means the most important variable in the INF deployment equation." However, the European peace movement, as distinct from European governments, would contrast our refusal to deploy MX with our demand, as they would portray it, that Europe accept our Pershing II and GLCM. It would be dangerously wishful thinking to believe that this argument would not have an impact on Western European electorates.

Senator LEVIN. Secretary Shultz, the President contends the MX is necessary to prompt the Soviets to agree to arms control treaties. He said:

But unless we demonstrate the will to rebuild our strength and restore the military balance, the Soviets, since they are so far ahead, have little incentive to negotiate with us. If we had not begun to modernize, the Soviet negotiators would know we had nothing to bargain with except talk. They would know we were bluffing without a good hand because they know what cards we hold—just as we know what is in their hand.

On the other hand, this contention is contradicted by the following statement by our Chairman, Senator Tower [Senator John Tower, November 2, 1981]:

By stuffing the MX's into fixed silos, we're creating just so many more sitting ducks for the Russians to shoot at . . . True, the MX missile itself will be more powerful, more accurate—and we need that kind of weapon. But it's of little use to us unless the Soviets are convinced that it can survive an attack. Without that, the Russians will have no incentive to start serious arms-control talks.

Why would you disagree with Senator Tower on this point?

Answer. From experience, we know that the Soviets will agree to restrain their own forces only when they believe that it is necessary to restrain ours. Indications that we have no plan for ICBM modernization over the next ten years would greatly reduce their incentives to reduce their ICBM force. Precisely because unconstrained MX deployments—in any basing mode—would have serious implications for Soviet ICBM survivability, the Soviets would have a strong incentive to seek limits, through arms control, on the extent of United States deployments.

MX IN SILOS IS DESTABILIZING

Senator LEVIN. Secretary Shultz, the Commission emphasizes that reducing the value of nuclear targets by moving away from large, multiwarhead missiles to small, single-warhead missiles is stabilizing and promotes arms control. By your own definition then, doesn't deployment of a 10-warhead, large MX missile contradict the Commission's own central thesis and desired goal? Isn't such a deployment in 100 vulnerable silos destabilizing, especially in a crisis between the two superpowers?

Answer. The Scowcroft Commission report provides the central reason why deployment of MX in silos is important and why it is not destabilizing:

THE MX IN MINUTEMAN SILOS

There are important needs on several grounds for ICBM modernization that cannot be met by the small, single-warhead ICBM.

First, arms control negotiations—in particular the Soviets willingness to enter agreements that will enhance stability—are heavily influenced by ongoing programs. The ABM Treaty of 1972, for example, came about only because the United States maintained an ongoing ABM program and indeed made a decision to make a limited deployment. It is illusory to believe that we could obtain a satisfactory agreement with the Soviets limiting ICBM deployments if we unilaterally terminated the only new U.S. ICBM program that could lead to deployment in this decade. Such a termination would effectively communicate to the Soviets that we were unable to neutralize their advantage in multiple-warhead ICBMs. Abandoning the MX at this time in search of a substitute would jeopardize, not enhance, the likelihood of reaching a stabilizing and equitable agreement. It would also undermine the incentives to the Soviets to change the nature of their own ICBM force and thus the environment most conducive to the deployment of a small missile.

Second, effective deterrence is in no small measure a question of the Soviets' perception of our national will and cohesion. Cancelling the MX, when it is ready for flight testing, when over $5 billion have already been spent on it, and when its importance has been stressed by the last four Presidents, does not communicate to the Soviets that we have the will essential to effective deterrence. Quite the opposite.

Third, the serious imbalance between the Soviets' massive ability to destroy hardened land-based military targets with their ballistic missile force and our lack of such a capability must be redressed promptly. Our ability to assure our allies that we have the capability and will to stand with them, with whatever forces are necessary, if the alliance is threatened by massive conventional, chemical or biological, or limited nuclear attack is in question as long as this imbalance exists. Even before the Soviet leaders, in a grave crisis, considered using the first tank regiment or the first SS–20 missile against NATO, they must be required to face what war would mean to them. In order to augment what we would hope would be an inherent sense of conservatism and caution on their part, we must have a credible capability for controlled, prompt, limited attack on hard targets ourselves. This capability casts a shadow over the calculus of Soviet risk-taking at any level of confrontation with the West. Consequently, in the interest of the alliance as a whole, we cannot safely permit a situation to continue wherein the Soviets have the capability promptly to destroy a range of hardened military targets and we do not.

Fourth, our current ICBM force is aging significantly. The Titan II force is being retired for this reason and extensive Minuteman rehabilitation programs are planned to keep those missiles operational.

The existence of a production program for an ICBM of approximately 100 tons is important for two additional reasons. As Soviet ABM modernization and modern surface-to-air missile development and deployment proceed—even within the limitations of the ABM treaty—it is important to be able to match any possible Soviet breakout from that treaty with strategic forces that have the throw-weight to carry sufficient numbers of decoys and other penetration aids; these may be necessary in order to penetrate the Soviet defenses which such a breakout could provide before other compensating steps could be taken. Having in production a missile that could effectively counter such a Soviet step should help deter them from taking it. Moreover, in view of our coming sole reliance on space shuttle orbiters, it would be prudent to have in production a booster, such as MX, that is of sufficient size to place in orbit at least some of our most strategically important satellites.

These objectives can all be accomplished, at reasonable cost, by deploying MX missiles in current Minuteman silos.

A program of deploying on the order of 100 MX missiles in existing Minuteman silos would accomplish the objectives set forth in this section and it would do so without threatening stability. The throw-weight and megatonnage carried by the 100 MX missiles is about the same as that of the 54 large Titan missiles now being retired plus that of the 100 Minuteman III missiles that the MXs would replace. Such a deployment would thus represent a replacement and modernization of part of our ICBM force. It would provide a means of controlled limited attack on hardened targets but not a sufficient number of warheads to be able to attack all hardened Soviet ICBM's, much less all of the many command posts and other hardened military targets in the Soviet Union. Thus it would not match the overall capability of the recent Soviet deployment of over 600 modern ICBM's of MX size or larger. But a large deployment of several hundred MX missiles should be unnecessary for the limited but very important purposes set forth above. Should the Soviets refuse to engage in stabilizing arms control and engage instead in major new deployments, reconsideration of this and other conclusions would be necessary.

Senator LEVIN. What is your reaction to the following statements:

So, it is pertinent to ask whether the proposed new programs increased our force stability; that is, whether they reduce the risk of accidental war . . .

Unfortunately, the silo-based MX has some potential for decreasing stability.

An MX missile will be substantially more threatening than any other single weapon in our force, but at the same time, it will be an easy target for a single warhead SS–18 or SS–19. This combination of a high effectiveness and high vulnerability tends to be destabilizing during a crisis.—October 14, 1981, San Jose Mercury News.

Why would you disagree with the author, Dr. William J. Perry, a Senior counselor to the Commission and former UnderSecDef for Research & Engineering? Dr. Perry was talking about the Administration's original plan to base 36–40 MX in Minuteman or TITAN silos, which were to be hardened. Wouldn't deployment of more than twice as many MX—100—in unhardened, even less survivable silos as you are proposing, be even more destabilizing?

Answer. Again, the Scowcroft Commission accurately addresses this concern, as described above, and I support their position.

Senator LEVIN. On February 13, 1981, Dr. Perry was quoted as follows:

The worst of all possible solutions, according to Perry, would be to place the new MX missiles in the old silos that now hold Minuteman III missiles. This, too, is being considered by the new Administration. Perry thinks it would do nothing to solve the problem of missile vulnerability, but would increase the Soviets' interest in striking first in a nuclear war.

It would probably force the United States to adopt a policy of "launch on warning," in which our missiles would be fired after military radars had spotted something resembling a nuclear attack. Perry says he cannot even discuss this option "without breaking into tears." Fundamentally, it "amounts to turning over to a computer the decision to start World War III." Perry says his enthusiasm for electronics does not extend that far.

Would you agree with your former deputy and colleague at the Pentagon about this dangerous condition of crisis instability—a destabilization of the nuclear balance—by placing MX missiles in silos?

Answer. This Administration most assuredly will not feel forced to adopt a policy of "launch on warning." Again, the Scowcroft Commission position on placing MX in silos, as presented above, represents my views on this concern.

Senator LEVIN. Why do you disagree with this characterization of the impact of the Commission's recommendation?

Answer. We would not be forced into a "launch-on-warning" posture because we have other strategic forces upon which we can rely for a retaliatory strike.

Senator LEVIN. Do you agree with the following; why or why not?

William Perry, former Undersecretary of Defense, November 13, 1981:

My concern is that if we had this very accurate, very threatening missile in unprotected silos, and if they do not go to a survivable system themselves . . . that simply increases the hair trigger . . . on both sides.

I agonized over that and said on balance I would not go ahead with that [MX in silos] because I don't believe we will come up with a survivable basing mode that is acceptable.

Since I am pessimistic that we will get a basing mode that is both survivable and acceptable, I am opposed to putting a weapon that lethal in an unsurvivable mode, for reasons I have described in terms of hair triggering the alert.

My main criticism—and I criticized the Carter administration—is that in the 1980's Minuteman and Titan are vulnerable in those silos. I think you and others properly have criticized that deployment. Then after 8 months we come back here; we have looked at all these other things supposedly, but it took 8 months to do that, and we end up with what we have now . . .

Senator WILLIAM COHEN, December 2, 1981:

I think inherently in any decision about having fixed silos, we must deal with the question as to whether or not, by putting these new, bigger, more destructive missiles in a fixed mode we thereby lower that threshold and make them much more targetable, much more attractive for the Soviets to attack in a moment of strategic error, miscalculation, and madness.

Senator JAMES EXON, December 3, 1981:

Probably the most serious of all is the ill-conceived placing of the 10-warhead MX missile in place of the 3-warhead Minuteman III missile or the single-warhead Minuteman II and Titan missile which would contribute to the unstable "launch-on-warning" doctrine we should instead be trying to avoid. It makes no sense to this Senator to place a more valuable weapon such as the MX in silos which are becoming more vulnerable with each passing month. During time of tension or warning of actual Soviet missile launch there will be a greater tendency to "use them or lose them" rather than having our land-based missiles attempt to "ride out" an attack and then retaliate. This situation does not contribute to crisis stability—one of the administration's own properly stated goals.

Answer. I disagree with the previous statements because the limited deployment of 100 MX will not be destabilizing, as the Scowcroft Commission has pointed out. Furthermore, the United States will not be forced into a "launch-on-warning" policy with MX any more than has been the case without MX. As I have previously stated we have other strategic forces upon which we can rely.

[Whereupon, at 1 p.m., the committee was adjourned.]

MX MISSILE BASING SYSTEM AND RELATED ISSUES

THURSDAY, APRIL 21, 1983

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, D.C.

The committee met in open session, pursuant to notice, at 9:37 a.m., in room SD-106, Dirksen Senate Office Building, Senator John Tower (chairman) presiding.

Present: Senators Tower, Warner, Cohen, Quayle, Wilson, Stennis, Nunn, Exon, Levin, Kennedy, and Bingaman.

Staff present: James F. McGovern, staff director and chief counsel; James G. Roche, minority staff director; Alan R. Yuspeh, general counsel; Brenda K. Hudson, assistant chief clerk; Willis D. Smith, deputy staff director and chief scientist for the minority; Frank J. Gaffney, George K. Johnson, Jr., Patrick L. Renehan, professional staff members; and Jacquie S. O'Grady, staff assistant.

Also present: John Campbell, assistant to Senator Warner; Jon Etherton, assistant to Senator Jepsen; Hank Steenstra, assistant to Senator Quayle; Ed McGaffigan, assistant to Senator Bingaman; Joseph Kurzel, assistant to Senator Kennedy; Arnold Punaro, assistant to Senator Nunn; Frank Sullivan, assistant to Senator Stennis; Greg Pallas, assistant to Senator Exon; Matthew Murray, assistant to Senator Kennedy; and Bob Zairtt, assistant to Senator Cohen.

OPENING STATEMENT BY SENATOR JOHN TOWER, CHAIRMAN

Chairman TOWER. The committee will come to order.

Today the Armed Services Committee resumes its consideration of the President's recommendations for the land-based component of our nuclear deterrent forces with testimony from the Nation's senior military officers.

We welcome today all five members of the Joint Chiefs of Staff, led today by their Chairman, Gen. John Vessey. Appearing with General Vessey are: Gen. Edward Meyer, Chief of Staff, U.S. Army; Adm. James Watkins, U.S. Navy, Chief of Naval Operations, Gen. Charles Gabriel, Chief of Staff, U.S. Air Force, and Gen. Robert Barrow, Commandant, U.S. Marine Corps.

The leaders of our armed services have a unique role as the principal military advisers to the executive and legislative branches of the Federal Government. Their advocacy of an administration's national security policies and the programs designed to support them tends to have considerable influence with members of this body.

Conversely—as was evident in the instance of the congressional consideration of the closely spaced basing mode for the MX—a negative finding by the Joint Chiefs on a major defense system can significantly diminish the prospects for approval of the requisite appropriations.

Our purpose this morning is to explore with the Nation's top uniformed leaders their military assessment of the strategic force modernization program recommended last week by the Scowcroft Commission and endorsed on Tuesday by President Reagan.

We expect that every member of the panel will testify in a manner consistent with the commitment made to this committee at the time of their respective confirmation hearings—that is, to provide the committee with their candid, professional views when called upon to do so.

It is the Chair's intention to hear from each of the Chiefs prior to beginning our round of questioning.

Senator Jackson is unavoidably detained in the Intelligence Committee, so at this point I will yield to Senator Stennis for any comments he may have.

Senator STENNIS. Mr. Chairman, I thank you.

I thank you on the part of Senator Jackson and all the Democratic members. I think we may proceed now, and I will have questions later.

Chairman TOWER. General Vessey, if you have a prepared statement which I believe you do have, we can enter that in its entirety in the record and you can summarize it or you can deliver it in full as you see fit.

If each of your colleagues have prepared statements, they will be included in full in the record and those comments may also be summarized. So, you may follow any procedure you would like.

General Vessey?

STATEMENT OF GEN. JOHN W. VESSEY, JR., U.S. ARMY, CHAIRMAN, JOINT CHIEFS OF STAFF; ACCOMPANIED BY GEN. CHARLES A. GABRIEL, CHIEF OF STAFF, U.S. AIR FORCE; GEN. EDWARD C. MEYER, CHIEF OF STAFF, U.S. ARMY; ADM. JAMES D. WATKINS, CHIEF OF NAVAL OPERATIONS, U.S. NAVY; AND GEN. ROBERT H. BARROW, COMMANDANT, U.S. MARINE CORPS

General VESSEY. Mr. Chairman, thank you.

I would like to go through the prepared statement. It is very short.

Mr. Chairman and members of the committee, thank you for inviting us to testify on the important subject of strategic force modernization and on our views on the report of the President's Commission on Strategic Forces.

Because the Joint Chiefs of Staff were unanimous in their latest recommendations to the President on the strategic force modernization program and because our views are unanimous on the report of the President's Commission, my colleagues have asked that I deliver a single statement on behalf of all of us.

In December of last year, the President asked the Joint Chiefs of Staff to review our strategic forces modernization program, and to report back to him in February with the results of the review. We did so.

We also reviewed the report of the President's Commission and provided our recommendation to the President on that report on the 4th of April.

Today, Mr. Chairman, we report to you that the Joint Chiefs of Staff, working independently of the Commission, arrived at land-based ICBM force conclusions which are fundamentally the same as those of the President's Commission.

We report to you, as we did to the President, that we are unanimous in our support for the report of the Commission.

Through the years, the Joint Chiefs of Staff have examined strategic nuclear force issues in great detail. This particular group of Chiefs has continued the examination.

Since last fall, we have met 48 times to examine strategic nuclear force issues. We have looked at our entire strategic nuclear force, examined its effectiveness, survivability, the need for modernization, and the arms control impacts of our programs.

We have looked at the intercontinental ballistic missile force, with particular emphasis on MX, the Peacekeeper, its contribution to our total force, and the alternate basing modes for the MX.

We have heard reports from recognized authorities from both inside and outside the Government; we met often with the Secretary of Defense on these issues, we met twice with the President's Commission; and since the first of the year we have met twice with the President on strategic forces issues. We have spent a great deal of time and effort studying the problems.

The need for our defense forces stems from the threats this country may face. This committee has a very good understanding of the Soviet threat and when I testified to this committee on December 8, 1982, I outlined the Soviet threat with particular emphasis on the impact on our own strategic forces.

Therefore, we will not spend a great deal of time in reciting the specifics of that threat. We would simply point out that the Soviets have made massive strategic deployments in the past decade.

In the past 6 years, they have deployed among the most accurate operational missiles in the world, and those missiles are based in the world's hardest silos.

In the last year, as part of the further modernization of those missiles, they deployed over 1,200 modern, hard-target killer warheads—more than we intend to deploy in our entire ICBM modernization program.

DETERRENCE THROUGH STRENGTH

For the past several decades, the United States has relied on deterrence through strength to counter the growing Soviet threat. We have tried to make it clear to the Soviets that they would not be able to achieve their aims through war. Our strategy is to deter war.

The Joint Chiefs of Staff believe that deterrence and stability come from establishing significant doubt in the minds of the Soviets that their war aims can be achieved.

We also believe that from the military point of view the entire range of United States and allied forces—strategic nuclear forces, theater nuclear forces, and general-purpose forces—all contribute to deterrence. They are all essential to deterrence.

Strategic nuclear forces are a major part of that deterrent, and it is the modernization of those forces, especially of our ICBM forces, that we wish to discuss with you today.

In considering the modernization of our strategic forces, we must recognize that accelerating Soviet modernization and our own lack of modernization in the past two decades have left us well behind the Soviet Union in several important measures of military capability.

We have not deployed a new ICBM since the early 1970's. We have deployed only one new ballistic missile submarine since 1967, in fact, under the provisions of SALT I, the Soviets are dismantling ballistic missile submarines that are newer than our newest Poseidon boats. We began to deploy cruise missiles only in December of last year.

On the other hand, during this same period the Soviet Union tested and deployed several new types of ICBMs and new and improved submarine-launched ballistic missiles. The Soviets have had cruise missiles deployed on submarines since the early sixties.

The present body of the Joint Chiefs of Staff has consistently recommended the modernization of the entire strategic nuclear triad to restore an adequate margin of safety in the immediate future.

The President's Commission has made the same recommendation, confirming the need for the modernization plans including strong support for improvements in our vital strategic command, control, communications capabilities. We reaffirm our own strong support for that modernization.

On the 11th of February, the Joint Chiefs of Staff briefed the President on the results of their review of strategic forces and recommended:

Continued strong support for the triad, and continued support to modernize the triad. We believe that the combination of land-based ICBM's, sea-based ballistic missiles, and bombers with air-launched cruise missiles provide a broad range of capabilities whose synergism complicates the Soviet planning, provides us flexibility and provides an important hedge against technological surprise by the Soviets in neutralizing any particular leg of the triad.

Continued highest priority support for improvements in command, control, communications, and warning. Because our strategy is one that does not include a first-strike, the ability of the command and control and intelligence system to survive an attack and provide the wherewithal to retaliate is key to deterrence.

Field MX in Minuteman silos. The accurate, prompt, hard-target attack capability of the MX is needed now and will add greatly to our deterrent strength.

Continued research and development for survivable land-based ICBM systems to include research on small mobile ICBM's.

Continued research to resolve the uncertainties about hardness of fixed bases for ICBM's.

We also recommended that the President set a new direction for the future and announce increased research for active defense against ballistic missiles. We pointed out our recognition that there was no near-term solution or defense against ballistic missiles, but that technological developments on the horizon could give hope to our own people and to our allies that we could use our technology to provide defenses which, when supplemented with arms-control agreements, could move us away from sole dependence on the threat of retaliation.

DEPLOYMENT OF MX

We agree with the Commission that deployment of MX as soon as possible is necessary to counter the increasing Soviet advantage in hard-target kill capability, to replace an aging ICBM force, and to provide a leverage in arms control negotiations, and thus improve our deterrent posture.

The Commission pointed out that it is the survivability and effectiveness of the entire triad, and not of any single leg, on which deterrence must rest.

Strategic modernization must deal with the combination of land-based ICBM's, sea-based ballistic missiles, and bombers with air-launched cruise missiles, which provide a broad range of necessary, complementary and mutually supporting capabilities.

The synergism of these capabilities complicates Soviet planning and provides us flexibility to threaten various forms and levels of retaliation against the Soviet Union.

It also provides an important hedge against technological surprise which might lead to neutralization of any leg of the triad. The accurate MX warheads will let the Soviets know that their missile silos, their leadership, and associated command and control are placed at risk, and that their ability to achieve their war aims is seriously in doubt. Deterrence will be improved.

I told this committee on December 8 that the Joint Chiefs of Staff fully supported the deployment of MX, but that there were differing views on the basing mode.

Today we have reported that we all support basing MX in Minuteman silos. Now, some will ask what has changed our views since the President's November 22, 1982, recommendations on deployment.

To set this issue to rest, we think I should provide you some of the details of our November recommendations to the President.

RECOMMENDATIONS TO THE PRESIDENT

On November 8 we told the President that we believed he was being forced into a final basing decision prematurely and that his first decision to field MX in Minuteman silos while searching for a better mode was a good decision.

Three of the Chiefs believed then that we should not deploy the MX in Minuteman silos due to technological and cost uncertainties with closely spaced basing.

General Gabriel and I, considering the early congressional rejection of the MX in Minuteman silos, recommended going ahead with deployment in the closely spaced basing mode and recommended a vigorous research and development program to resolve the uncertainties in closely spaced basing. We believed that most of the uncertainties could be resolved and that uncertainty itself has deterrent value.

Central to both viewpoints was unanimous agreement on the importance of deploying on schedule.

After considering the intervening political developments and in reconsidering the arguments on technological uncertainty, the Joint Chiefs of Staff have unanimously concluded that the crucial need for an advanced highly capable ICBM can best be met by the deployment of MX in Minuteman silos.

The Commission correctly looked beyond the specifics of an MX basing mode, and more importantly did not consider the ICBM force in isolation. They saw that in the midterm and beyond our goal should be to increase stability. We endorse their recommendation that research on a small, single warhead ICBM begin at once. Development of such a weapon may offer the prospect of continued deterrence with even greater stability in the future.

We also strongly support the recommendation for continued research to resolve uncertainties about silo or shelter hardness.

The Commission's report gives us a formula that makes sense both militarily and fiscally. The Commission has performed a great service for the country, and the Joint Chiefs of Staff unanimously support their recommendations for modernizing our ICBM force.

Following the Commission's recommendations will provide effective deterrence. The deployment of MX will help redress the imbalbalances that have developed over the past decade.

In the future, adding the small single warhead ICBM, coupled with an aggressive arms control effort, offers the prospect of increased stability. We believe that these steps, coupled with the President's long-term goal of effective defense against ballistic missiles, provide a blueprint for deterrence well into the next century.

We understand the Commission's concern over the technical difficulties associated with defense against ballistic missiles in the immediate future. Therefore, we agree with the Commission that for the near-term deterrence must continue to depend on strong offensive forces.

ARMS CONTROL

Before concluding, we should discuss arms control. As the Secretary of Defense noted in his fiscal year 1984 annual report, it is the policy of the United States to maintain the lowest level of armament compatible with the preservation of our security and that of our allies.

The Joint Chiefs of Staff have concluded that the preservation of that security urgently requires deployment of MX and continuation of the strategic modernization program. But we are united in our strong support for meaningful, effective, and verifiable arms reduction.

Such reductions will occur only if we make it clear to the Soviets that we have the resolve to maintain an adequate strategic deterrent force.

Approval of the President's recommendations is an essential first step toward greater stability and genuine arms reductions.

All of us share a common desire to provide for our national security in the most effective and most economical way.

Soviet goals and objectives are not a reflection of our own, and the capability that might deter the United States does not necessarily deter the Soviet Union.

The Joint Chiefs of Staff are firmly convinced that the program outlined by the Commission and endorsed by the President will deter aggression and represents a balanced approach to providing the forces necessary to provide for the common defense.

A strong modern deterrent, coupled with aggressive arms control policies, will provide for stability and insure national security.

The President's decision has the unqualified support of the Joint Chiefs of Staff and deserves the full support of the Congress. We urge this committee to lead the Senate in this most important undertaking in providing security for the American people and the free world.

Mr. Chairman, we are ready for questions.

Chairman TOWER. Thank you, General Vessey.

Do any of the other service Chiefs want to make any comment before we proceed to questions?

Then I will recognize Mr. Stennis.

Senator STENNIS. Gentlemen, I am very glad to have you here today to testify. We couldn't think of carrying on our system without getting your views and you are well prepared on the subject.

We have had plenty of time to get ready. Over the years our committee has been approving the MX as such. It seems to me that we haven't pushed hard enough for the basing mode.

We have been reviewing the Commission's report most of the week, and I have been anxious to see just what you gentlemen were going to say, although I knew you supported the report.

Let us turn to page 5, General Vessey, where you say:

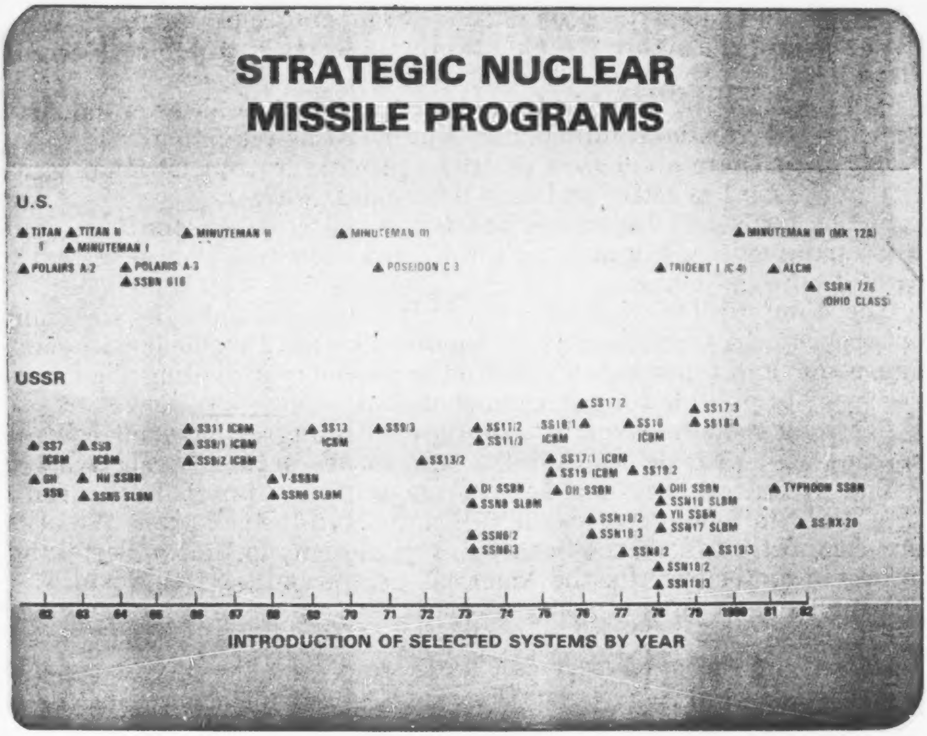
> We agree with the Commission that deployment of MX as soon as possible is necessary to counter the increasing Soviet advantage in hard-target kill capability, to replace an aging ICBM force, and to provide a leverage in arms control negotiations. . . .

You stated the entire story in one sentence. Please elaborate on that, explain it a little more clearly. I think the American people are divided and confused about this. It has gone on so long, and they ordinarily leave these matters to the Congress. But other movements are coming in and I think more delay could develop.

Suppose you spell out what you mean here using the language of the everyday citizen on the street. Just what do you mean about countering the increasing Soviet advantage in hard-target kill capability?

General VESSEY. Senator Stennis, let me show you a little chart here, if I can. I am not sure that you can see this thing. You would have to have eyes a lot better than mine.

[The chart follows:]



General VESSEY. If you see these points up here at the top, this is the modernization of our own forces. The Minuteman III was initially deployed here and you see on the bottom the scale 1970, with the MK–12A warhead being added in 1980, the Poseidon C–3 here in 1971, the Trident I or C–4 in 1979.

You look and you will see these are ballistic missiles, both submarine-launched and intercontinental ballistic missiles. You can simply look at the red dots here. These are improvements or new missiles that the Soviets have added during that 10-year period.

The Soviets have added, as I believe both the Secretary and the Commission pointed out to you, a significant force, well over 600 SS–18's and SS–19's, medium and heavy missiles with the latest modifications, they are very accurate warheads, among the most accurate missiles in the world, with, just exactly what I pointed out, hard-target kill capability.

What is a hard-target kill?

It is a combination of the accuracy of the missile, the yield of the warhead and the hardness of the target. When we deployed the Minuteman III it was a hard-target killer in terms of the targets that we had at that time.

In the meantime, the Soviets have hardened the targets. The missile has grown old. The Soviets have added their own accurate warheads.

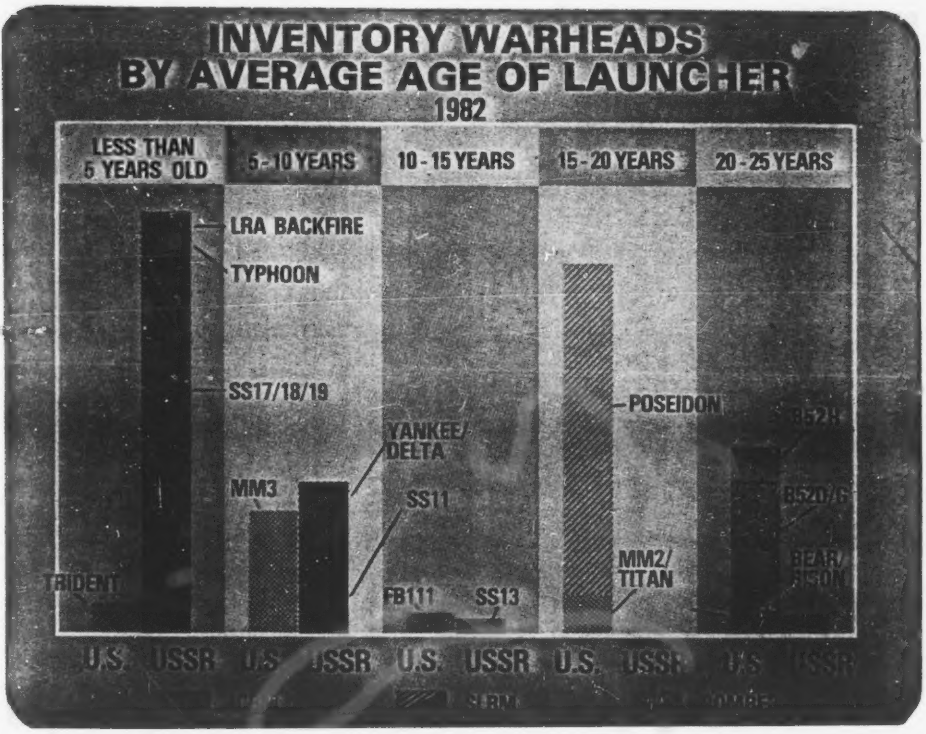
I might point out, for example, in throw-weight alone those 300-some odd SS–18's have more throw-weight than the entire United

States intercontinental ballistic missile force and submarine-launched ballistic missile force today.

That gives you some representation of the capability of those missiles.

This chart represents the average ages, Senator, of the deployed forces.

[The chart follows:]



General Vessey. You will see about 75 percent of our deployed forces are in the 15-to-20 years and older category while 75 percent of the Soviet forces are in the 5-years category, or newer.

You can see the Minuteman III, I have it in the 5 to 10 years category. You might question how does that fit with that chart. Actually the average age of the Minuteman III is 9 years.

ARMS CONTROL LEVERAGE

Certainly, I think from the point of view of arms control leverage, knowing that the Soviet forces are modernized and ours are not, we are at a disadvantage when we go to the arms control table.

Modernizing the forces will certainly make it clear to the Soviets that we intend to maintain a modernized force and, therefore, it is in the best interest of both countries to move toward stability with lower levels of arms.

Senator Stennis. I think you have made it clear now in illustrating this so that some editorial writer or newspaperman could write an analysis of what you said so that the average citizen can read and understand the matter more clearly.

I appreciate all your time getting down to the language that the average fellow uses because after all, we have to have his judgment on these things, too.

That is all I have now. Mr. Chairman.

Chairman **Tower**. Senator Bingaman has been the most conscientious of all the members of this committee in his attendance. I think patience should be rewarded. Therefore, I am going to call on him next and get him up front for a change.

Senator **Bingaman**. I appreciate that, Mr. Chairman.

Generals and Admirals, let me ask a couple of questions that are not directly addressed, at least not in great detail, in your opening statement about the superhardening of the silos that seems to be anticipated in the future, at least research on it.

SUPERHARDENING OF SILOS

Can we get any more detail at all about what the Joint Chiefs of Staff would anticipate with regard to superhardening of these Minuteman silos that it is proposed to put the missiles in, as to the time or what would be involved, the cost or anything?

Is there anything we can say about that other than it is something we ought to look at?

General **Vessey**. I think it is a little too early to tell. We have a lot of research going on in superhardening now. We know from our intelligence sources that the latest Soviet silos are very, very hard, probably several times as hard as ours.

I think it is too early to tell about the cost and what might be done. We need to do research.

I will ask my compatriot, General Gabriel, to make a comment.

General **Gabriel**. I should like to say, Senator, that in the last few years we have found that in superhardening there are possibilities out there far beyond what we had thought we could do.

I agree with the chairman that it is a bit early to say right now how hard and how much it is going to cost, but it is certainly something we have to dig into and find out as much about it as we can. We are spending $450 million over the next 3 years to find out and it could help us possibly with the future hardening of the MX as well as the small missile that we plan to spend some money on, as you know, in this budget.

Senator **Bingaman**. Is it fair to say that since we really don't have any information on this other than we are going to spend some money on research, is it fair to say that it is the recommendation of the Joint Chiefs of Staff we do the MX on the assumption that it will be as vulnerable as the Minutemen are today as far as survivability?

Is that a fair statement of your position?

General **Vessey**. A single MX in a Minuteman silo will be as vulnerable as the Minuteman is today. We believe that the entire modernization program makes the entire force less vulnerable.

We fielded the first squadron of air-launched cruise missiles on B-52's; by adding the MX in those Minuteman silos, showing the Soviets that we have the hard-target kill capability, by modernizing our command and control, communications and warning, by continuing our modernization of the submarine forces, we believe we can make the entire force less vulnerable.

Now, if you take a single-shot kill probability on a given silo, that won't change by adding MX in place of the Minuteman.

Senator BINGAMAN. This, I believe, is what General Scowcroft referred to as synergistic survivability, is that accurate?

General VESSEY. Yes.

MIDGETMAN

Senator BINGAMAN. Let me ask about the Midgetman.

I notice according to your remarks here, your report to the President in February strictly dealt wtih the MX and said that we should go ahead with the MX in fixed silos and did not contain any recommendation with regard to a small missile.

Is that accurate?

General VESSEY. That is not correct, Senator.

We recommend going ahead with research on the small mobile missile.

Senator BINGAMAN. I see it in here, yes.

Is there anything more you can tell us about what you have in mind with regard to that as to deployment?

The thing that concerns me on it is with its being considered in a vague category like that, are we running into the same kind of problems with deployment that we have just gone through with the MX where we go through many, many different proposed basing modes and then conclude that some way or other it is not feasible to do at any rate?

General VESSEY. It poses some difficult operational and deployment questions for us to answer, Senator. Of course, the theory is that by having less valuable targets, just one-warhead targets, we have more of them, by having them mobile, you provide survivability.

There will be operational questions that we have to answer about the security of the missile, itself, what sort of land would we put it on, Government land or elsewhere.

A considerable amount of work has been done through the years on this, but there are still questions to be answered.

Senator BINGAMAN. The short answer is that we really don't know much about the cost or possible deployment methods or number or any any of those details?

General VESSEY. We know a fair amount about it, but we have not settled on any specific recommendation.

I will ask the other Chiefs to respond.

General GABRIEL. We have some studies on the concepts and how it might be done.

On the future cost we have heard from some contractors already. It is still a concept. We don't have all the details, as you suggest, but we have some ball park figures.

General VESSEY. We know a lot about building missiles. The Army's experience in building the Pershing II gives one a fair amount of experience and understanding of what one can do with mobile missiles.

Senator BINGAMAN. The thrust of my questioning is because of the emphasis that the Scowcroft Commission seems to put on the combined package in saying that the MX makes sense because we are doing the Midgetman, we are going to be doing the Midgetman, and because of the position we are taking in arms control, I am just trying to probe to see what more we can find out about the other pieces of the package we make a judgment on MX, if MX is in fact dependent upon these other synergistic improvements.

General Vessey. The Commission recommended going ahead with the engineering development of the small missile, understanding that there are questions yet to be answered. Whether one would base it in hardened silos or a hardened mobile mode or unhardened mobile mode, is a decision to be made at the time one finishes the engineering development and decides whether to go ahead with the full-scale development.

In the meantime, we are pursuing arms control, all of which will have an effect on the decision.

DEPLOYING MX IN MINUTEMAN SILOS

General Meyer. The question you ask is. Does it make sense to deploy the MX on schedule and in Minuteman silos?

It seems to me that the only advice I can give you is military advice on this issue. I was charged by the chairman to do that. It seems to me it does make military sense from three points of view.

First of all, we need a hard-target kill capability in the nearterm to attack those targets he has shown you. There is nothing else that can take care of that. We need that. There is an imbalance in that area.

The second area, in my judgment—from a military point of view—is that we can't handle the problems of the world alone. The importance of the MX to our allies as it relates to stability, as it relates to the defense which we provide, seems to me does two things.

One, it helps us militarily in providing that umbrella—with some leakage to it but still an umbrella. And second, it gives some leverage to put pressure on them to pick up in the conventional area in which they will have to share if we are to do the strategic mission.

The third area is in arms control. I believe again from a military point of view two of us in this group here supported SALT II. All of us have supported major strategic arms reductions. It seems to me that without it we are not going to be able to make the break that is necessary.

So to me, the answer to the question for the MX is that part of that synergism that General Scowcroft talked about is still independent, as far as I am personally concerned, because of the military variance.

Senator Bingaman. I guess my time is up so I had better stop right there.

Thank you very much.

Thank you, Mr. Chairman.

Chairman Tower. Senator Nunn?

Senator Nunn. Thank you, Mr. Chairman.

I welcome all of you here this morning. I keep reading in one of our Nation's leading newspaper articles by one of our Nation's most astute and perceptive reporters that Nunn supports the Reagan plan.

Let me clarify for the record that I have not endorsed the plan. I have commended the Commission for what I think is a good job and

I have commended the Commission for relating our strategic programs to arms control.

I have raised questions about putting the Minuteman in vulnerable silos. I have also raised questions, and will continue to, about whether there is an alternative and I want to pursue that with General Gabriel this morning.

UPGRADING MINUTEMAN III

That is upgrading the Minuteman III force with a new guidance system in lieu of the MX.

I have also stated that I felt we had to find a way to interrelate the MX, if we approve it, to some form of arms control concept as recommended by the Commission, but not in detail. I think the Commission could have gone much further in tying that deployment to arms control.

So, just for clarification, I have not endorsed the Commission's report on one of the key elements and that is the MX itself, but I will be asking a lot of questions on that.

General Gabriel, one line of questioning along that line.

Would a Minuteman III missile with the AIRS guidance and MK-12A warhead provide comparable hard-target kill capability to the MX warhead?

General **Gabriel**. It could with AIRS. The MK-12 would not be as good as the 12-A, as you know, but you can do that. We can get a thousand comparable warheads by taking 334 Minuteman III's and putting the AIRS guidance system and MK-12A warhead on them.

It would not be as good as what we suggested in the President's program, in my mind, in the sense it would not be adding any warheads. What we suggest would add another 700 warheads.

Senator, maybe you did not see what was shown earlier, but there is a chart that shows why we do need these additional warheads for prompt hard-target kill in particular.

Senator **Nunn**. What would be the maximum number of Minuteman III warheads if we provided that kind of upgrade that we could with the existing force or with Minuteman III missiles that haven't been deployed? What would be the maximum?

General **Gabriel**. The maximum that we could improve?

Senator **Nunn**. Yes.

General **Gabriel**. We can improve the whole lot, of course.

Senator **Nunn**. How many warheads would that be?

General **Gabriel**. Modernizing 550 missiles which would add about 1,650 or so highly accurate warheads. That would be 1,650 of the prompt hard-target caliber. You would not add any warheads by doing that, but you would make those you have more effective.

The problem we have, though, if I can finish, is you would not get the range, the footprint, the throw-weight that we think we need in the MX. You cannot, say, from the Minuteman III field in Wyoming, reach the SS-18 fields in the southern part of the Soviet Union carrying a full load of the three warheads. You would have to download some warheads.

Senator **Nunn**. Because of range?

General **Gabriel**. Because of the throw-weight and the range problem. You also would not be able to meet changing threats on the other end very well. For example, if we had to add advanced penetration aids, you would not be able to put those on like you can on the MX—Minuteman III would have trouble carrying the extra weight.

There is the problem of aging which we are going to have to take care of in any case. We have to do some things to keep the Minuteman like it is.

Senator **Nunn**. That is going to happen in either case.

General **Gabriel**. Exactly. But it's mainly the footprint, the range and the throw-weight that would cause us not to be able to do those things we may have to do eventually in order to survive that RV and make it effective when it goes in.

Senator **Nunn**. Suppose you reduce the number of RV's on the Minuteman III and give each RV, of course, more overall megatonnage and then increase your number of overall Minuteman III's, open up the production of them. Have you examined that alternative?

General **Gabriel**. We have not examined opening it up in detail, although it could be done. Improvement of the Minuteman could be a good add-on capability to the MX, but nothing, I don't think, compares with the cost effectiveness of putting the MX out there in the Minuteman field.

We have also not seriously looked at opening up another line for the Minuteman to put bigger motors on or to put a bigger warhead on and cut back to about two warheads per missile to solve the throw-weight problem.

Senator **Nunn**. Wouldn't that give you more throw-weight and range?

General **Gabriel**. It would give you some if you backed off to two warheads but not very much. If you are going to build a new missile, it would probably help you to go ahead and put a new propulsion system on that would give you that extra range.

Senator **Nunn**. If you are going to build a new missile, it would be delaying spending more money instead of going on with the MX?

General **Gabriel**. Yes.

Senator **Nunn**. What I had in mind is an alternate to what you have.

General **Gabriel**. Yes. If we were to modernize Minuteman as you suggest, it will take, in our opinion, about 2 extra years. We are all concerned, of course, about the urgency of it.

Senator **Nunn**. Two years beyond what it would take for the IOC on the MX?

General **Gabriel**. The MX IOC is 1986. It will take until 1988 to achieve IOC with a modernized Minuteman III. The cost, of course, to do what I said, 334 Minuteman III's would be about $9 billion. If you do all 500 of them, it will be in the vicinity of $12 billion.

Senator **Nunn**. You could get a comparable number of warheads and accuracy. We are going to have 1,000 MX warheads, correct?

General **Gabriel**. Yes.

Senator **Nunn**. On the Commission report?

General **Gabriel**. Yes.

Senator **Nunn**. You could take 334 Minuteman IIIs and put on AIRS guidance systems, upgrade the warheads, so forth, on them and get a comparable number of warheads to the Minuteman force, a comparable number of warheads that had high accuracy.

General **Gabriel**. You would get the same number of Minuteman warheads that you have now. You would not get the 700 extra warheads you would get if you take 100 Minutemen and replace them with MXs. You would get 700 more. Subtract 300 warheads for the 100 Minutemen removed, and add 1,000 MX warheads. You would get 700 more warheads.

Senator **Nunn**. Is there considerable doubt about how long it will take to actually upgrade that force? Is there internal disagreement on that?

General **Gabriel**. You are talking about the 2 years?

Senator **Nunn**. Yes.

General **Gabriel**. Not in my headquarters, but there might be in some communities. I think that is a conservative estimate. You could, of course, try to accelerate and use the concurrent method and possibly bring that down a little bit, but 2 years is what we think. 1988 IOC and 1991 FOC.

Senator **Nunn**. I had heard the IOC was much sooner than that before the Commission made that report. Has there been a change in the IOC date on the Minuteman III upgrade since the Commission report?

General **Gabriel**. No. This is the only IOC I have seen on it.

Senator **Nunn**. Has the Minuteman III been tested with the new AIRS guidance system?

General **Gabriel**. No, not with the system we have been developing for MX. That would take some time, of course. There were some tests in the late 1970s using an AIRS-type device as an instrument to measure performance of the present Minuteman III guidance system. It was just that however; a test instrument, not an operationally displayable guidance set.

Senator **Nunn**. If we tried to put a pro and con on this alternative, would you list the things that are wrong with it again?

You are saying the time delay is one big factor.

General **Gabriel**. Yes, that is a big factor. I think it is urgent.

Senator **Nunn**. Another factor is the total warhead count would not go up. It would be constant. Your hard-target kill warhead counts would go up comparable to the MX?

General **Gabriel**. We would improve our capability, but not increase the number of warheads.

Senator **Nunn**. You would have the same hard-target capability with the MX, but not with the overall warhead with MX plus Minuteman III?

General **Gabriel**. Just about as good. You would not have the same target coverage because you would not be able to get the range, the throw-weight and penetrability that I am talking about.

Senator **Nunn**. Am I correct that the cost differential is $4 or $5 billion on the low side going to the Minuteman III route rather than the MX route?

General **Gabriel**. That is about right.

Senator **Nunn**. $5 billion?

General **Gabriel**. We are saying $9.3, just the 334, to get the 1,000 warheads like that versus the $16.6 for 100 MX. We have already got $1 billion into that, so about $15.6 to do the MX.

Senator NUNN. You are saying the Air Force really has not looked at the option of possibly opening up the Minuteman line and reducing the number of warheads?

General GABRIEL. There may have been some low level looks at it, but it has not gotten to my level.

Senator NUNN. What is wrong with looking at it? Maybe there is something so wrong that it is not worth looking at. What is wrong with taking a look at that?

General GABRIEL. Right now we would have to look at it in terms of the arms control constraints, I should think, and what that would mean to us, how you would field them, what it would give to us in extra capability, how long it would take and how much it would cost.

IOC OF MINUTEMAN III

I should think what is wrong with it compared to the MX is that it is going to take you a long time and it would not buy you as much.

Senator NUNN. I would like you to take another look, if you would, General Gabriel, at the IOC of the Minuteman III, the 1988 figure, because I have gotten conflicting information from other people who are involved in this overall Minuteman III program.

Their indication is, and it is not unanimous, I will certainly concede, that you could go with the 1986 IOC, putting it on the same time frame as the MX. The accuracy is almost the same and the cost is $5 billion less. Of course, there are other factors you have pointed out, range, footprints, and so forth, which I do not minimize.

It would at least be helpful if we could get from you sort of a couple sheets that show the pros and cons and strengths and weaknesses of that as an alternative.

General GABRIEL. Yes. We will provide that, Senator.

Senator NUNN. I would not want to embark on another study. We have done enough of those, but whatever information you have about possibly taking the number of warheads down and thereby curing that range and payload problem would be helpful.

General GABRIEL. Any way we can improve on that we will research it and I will let you know.

The other thing, of course, is if we do that, I think psychologically that would not do what we want to do. If we do not pull off an MX in the near future, no matter what you call it, it will not have the same effect in reassuring and giving confidence to our allies and it would not have the same effect at the table with the Soviets.

Senator NUNN. My time is up.

Thank you.

Chairman TOWER. Senator Wilson?

Senator WILSON. Thank you, Mr. Chairman.

The question that I asked Secretary Weinberger yesterday has been answered graphically today by General Vessey. In his chart comparing the buildup by the Soviet Union and the United States over the last 20 years with respect to strategic nuclear missile programs, General Vessey illustrates the fact that there has been far greater activity on the part of the Soviets than on our part, a fact noted by both members of the Commission and by the Secretary yesterday.

REGAINING BALANCE IN STRATEGIC WEAPONRY

This is background. General Vessey, to one of the arguments the Commission makes in favor of the Peacekeeper—that it is necessary for us to try to regain some balance in strategic weaponry in order to be credible at the bargaining table in Geneva.

Yesterday, I also asked Secretary Weinberger to comment on my supposition that if we do not deploy an improved ICBM, it would free the Soviets to concentrate on other legs of the triad. Specifically it would allow them to concentrate on improving their ASW capability with the hope of overtaking our present superiority in that field.

It appears that they have been making that effort. I notice that among the latest of their advances in the Typhoon.

I wonder if you or Admiral Watkins would care to comment on what you anticipate will be the level of Soviet effort in that regard?

General Vessey. Certainly we believe that by maintaining the triad we help to protect all three legs of the triad.

I will ask Admiral Watkins to address the specific issue of ASW.

Admiral Watkins. Senator Wilson, I think it would be a tragic mistake to accept any concept that would allow the Soviets to shift their focus away from the land-based leg of the triad. I believe it is a hedge against breakout in the future.

I believe it is very important to keep the Soviet resources focused in diversified areas rather than in narrowly focused areas.

Were they to take the current situation they have in the ICBM force and freeze it, for example, and shift their focus to the antisubmarine warfare aspects of countering our triad, I think that would be to the detriment of the United States.

I think that is one of the important deterrent aspects of keeping the triad sound and why the Commission not only recommended the fielding of the MX on an urgent basis, but also following an option to develop a smaller ICBM.

I believe those are vital and the synergism that the Commission spent so much time on is at the hub of the formula, what I felt was overemphasis on one aspect of the triad which was vulnerability of the land-based leg alone.

We know that the combination of the vulnerabilities of the entire system is the area of prime concern, as the chairman mentioned. That combination is being strengthened with a modern basing program.

I certainly would not want to see us drop the credibility of one of our triad legs because it would be to the detriment of the other two, and it would allow the Soviets to narrowly focus their resources accordingly.

Senator Wilson. Would you also comment on the effect in terms of the ability of the Soviets to choose effectively an option that would allow them to attack a bomber force with a submarine-launched capability were we not to deploy the MX?

Does that enhance their ability?

In other words, the argument is being made now by proponents of the Peacekeeper that we can effectively compel a choice. They can choose to hit our land-based missiles, or they can choose to hit the bomber force. But if they make their choice, then they will evoke a response from the leg of the triad that they have not chosen.

Admiral **Watkins**. Yes; that was addressed in a forthright way by the Commission. They walked through a scenario which stated that, on the one hand, if Soviet SLBM's were launched to defeat the bomber force, the United States would have the capability to respond with the ICBM legs. Having the MX there is extremely important; a thousand warheads as a counter to their leadership and their SS-18 silos, their hardened heavy ICBM's, their core values which they hold dear.

On the other hand, if they went after the ICBM silos, the bomber force would be launched on schedule. This again would be a deterrent to keep them from getting into that kind of exchange in the first place.

I believe that point was extremely well made in the Commission report. It was one of the first times I have seen anyone publicly step through a scenario of that type and explain in layman's terms what we are talking about when we speak of synergism.

Senator **Wilson**. Thank you, Admiral.

BUILDDOWN APPROACH

Let me ask General Gabriel, or any of the panel members, to comment on the desirability of the approach advocated by Senator Cohen, Senator Nunn, and many others that predicts a build-down on eliminating two older, less stabilizing weapons for every new strategic weapon introduced as part of our modernization program?

I understand that you don't have any specific proposal before you, but would you comment on that as a concept?

General **Gabriel**. I will start with that and then ask for help, Senator Wilson.

If you didn't see General Vessey's presentation, there were a couple of charts that show you the age of our systems relative to the age of the Soviet systems.

Essentially most of theirs are 5 years or younger, they are very new systems.

Ours are about 15 years or older, most of them. We have been in the process for some years of trying to get a modernization program going for our strategic weapons. It is more important, in other words, for us now to modernize than it is for them.

Just to give you an example, if you followed that right now, if we modernized completely the ICBM force—we have 1,000 Minuteman missiles out there—if we preplaced those 1,000, we have about 2,100 warheads, so under a 2 for 1 builddown proposal we could trade our total Minuteman force right now for about 100 MX's. That is what we would have to do.

I am not sure that would be the wisest thing to do. We would only have 100 missiles in the field, according to that formula. You add 1,000 warheads which 100 MX's would do and you would have to take down all of your Minutemen.

That is the kind of thing we would be forced to consider to do that. I think after we modernize we would be in better shape to consider such a plan. Hopefully the discussions that are ongoing in START talks will achieve the reductions that we talk of and we do, as you know, look at warheads and throw-weight in those discussions.

I think that is what is most important. It is a good suggestion and if we were in a little different configuration compared with the other side, we might be able to do that, but I would be concerned about following that right now with the position we are in.

General VESSEY. I think, Senator, if both sides were at the same levels of modernization, it would be a very sensible way to move toward a more stable world because modernization would then continue and you could find a way to reduce to far lower levels.

I think the President's START proposal is in effect a builddown proposal. It says let us reduce the number of warheads significantly, and that is what build-down would do.

As General Gabriel pointed out, the Soviet force shown on the chart is a modern force and ours is a very old one. The need for modernization comes from our side of the house and we would be reducing our force far more than they would.

If I were the Soviet planner now, I would say, yes, do that right now.

Senator WILSON. Thank you, General.

My time is up.

Chairman TOWER. Senator Levin?

Senator LEVIN. Thank you, Mr. Chairman.

General Vessey, I am wondering whether or not you would agree with the following figures by the Library of Congress that show that the United States added 5,920 strategic nuclear warheads and bombs in the seventies and the Soviet Union added 5,019?

In other words, we added over 700 more strategic nuclear warheads and bombs in the seventies than did the Soviet Union. Would you agree with that figure?

General VESSEY. Let me look at the numbers I have here and see if I can come to something close to that.

Senator LEVIN. While you are looking that up, let me ask General Gabriel a question.

MINUTEMAN LIFE-EXTENSION PLAN

General, would you agree with the following statement that "currently planned life extension programs for Minuteman will be complete in 1993 with installation of the last new Minuteman II stage-three motor. At that time the Minuteman weapon system's life can be extended into the 21st century. The Minuteman is very reliable now and is expected to continue to be a key weapon system to the year 2000?"

Would you agree with those statements?

General GABRIEL. If we spend the moneys we now have in the program, we can extend the life of the Minuteman out to year 2000, recognizing that reliability will continue to go down because of the aging, but we will have to spend considerable resources to keep things going.

Senator LEVIN. That is our present plan?

General GABRIEL. Our present plan?

Senator LEVIN. Under our current plan with or without MX, we do plan to continue Minuteman into the next century and you would agree then that it is expected to continue to be a key weapon system through the year 2000?

General **Gabriel**. That will all depend on arms-control negotiations and the small missile we are talking about and whether or not we get the MX. There is a lot of uncertainty about how far we will take the Minuteman.

It will depend on the cost effectiveness of continuing to stretch them out when today they have a declining effectiveness against the hard targets that the Soviets are building. If we can't improve their effectiveness, I would question whether or not we would want to extend them to that length.

Senator **Levin**. In other words, you do not necessarily agree with the statement that the Minuteman can't be extended into the 21st century?

General **Gabriel**. It can be extended as a viable system in terms of getting it off the ground and possibly getting it to the target with declining possibilities or probabilities of arrival because of reduced reliability. But then when you get to the other end, how effective are they against those targets? Unless we improve the accuracy of them, as Senator Nunn was talking about earlier, it probably will not be worth the trip.

MINUTEMAN A KEY WEAPON SYSTEM

Senator **Levin**. Let me ask you whether you agree with a very specific point. If you can give me a "yes," "no," or "not necessarily," I would appreciate it.

"Minuteman is very reliable now and is expected to continue to be a key weapon system through the year 2000."

Do you agree with that statement? "Yes," "no," or "not necessarily."

General **Gabriel**. I will have to caveat it.

If we bring in the MX and the small missile, then it will be much less useful during that time period, yes. If it is the only thing that we have, if we don't get the MX, we will do everything we can to keep the only system we have viable.

Senator **Levin**. The Air Force made this statement to the Armed Services Committee just a month ago. It seems to me I am noticing some shifting of ground here.

Just a month ago you told us, "Minuteman is very reliable now and is expected to continue to be a key weapon system through the year 2000." Now you say there is a caveat on that a month later.

General **Gabriel**. I am completely flexible in our program. If there is a better way to go next year, I will go that way. If we get the MX and those other systems and I find the Minuteman is not going to be worth the expense, we will phase it out.

Also, in arms control negotiations, it could turn out that we would not want to keep Minuteman in lieu of another system.

Senator **Levin**. If we don't get MX, "Minuteman is very reliable now and is expected to be a key weapon system through the year 2000"

General **Gabriel**. It is reliable now. That is not to say it is doing the job on the other end and that is what is important to deterrence.

General **Vessey**. Can I give the answer to your previous question?

Senator **Levin**. Yes.

General **Vessey**. I don't have the exact dates you mentioned, Senator, but I do have 1972 to 1982 and the figures I have are the Soviets added almost twice as many warheads and bombs from 1972 to 1982.

Senator **Levin**. I am talking about before the present administration, just in the seventies.

General **Vessey**. I have a 2-year slip. I have 1972 to 1982.

Senator **Levin**. On your chart this morning, the number of strategic nuclear warheads and bombs that were added whether the Library of Congress is right or whether you are right——

General **Vessey**. The charts I showed were systems. I can give you another one.

RELIABILITY OF U.S./U.S.S.R. SYSTEMS ON A PAR

Senator **Levin**. It would be useful if you would. Putting aside the age of our systems, is it not true that the reliability of our systems has always been higher than that of the Soviet systems?

General **Vessey**. That is a little difficult for us to tell. We work very hard on reliability because that is one of the major functions of the usefulness of the system to make it reliable. Certainly the Soviets are doing exactly the same thing.

Senator **Levin**. Aren't our systems more reliable in general than the Soviet systems?

General **Vessey**. We have observed a lot of Soviet launches this past year and I would add that the Soviets launched about four times the number of training and test launches that we did this last year.

The ratio for the first quarter of this year is a little more than 4 to 1. Looking at the best we can tell from our telemetry, and so forth, we can say that the Soviet reliability turns out to be pretty close to ours.

Senator **Levin**. Would you say that it is still not as good as ours? Although it might be getting close, it still is not as good?

General **Vessey**. It is really hard to say, Senator. The Soviets do some things that we don't. They have their test launches from operational silos, for example. We don't do that. They get good reliability from their operational silos.

Senator **Levin**. Would you say their reliability is as good as ours?

General **Vessey**. We work very hard to keep it there.

Senator **Levin**. Would you say our reliability is at least as good as the Soviet's reliability?

General **Vessey**. I think so.

Senator **Levin**. Is that reflected in those charts?

General **Vessey**. We didn't talk about reliability.

Senator **Levin**. You see, you show us a chart that shows our systems are a lot older than theirs and it gives a very distinct impression. You do acknowledge that despite the age of our systems, they are at least as reliable as Soviet systems.

All I am saying is that I think that is a pretty important point, and a chart that does not show that our reliability is at least as great as the Soviet's is not a chart that accurately reflects that issue. That is all I am saying.

General **Vessey**. I would agree with you that the chart does not say anything about reliability, Senator. We weren't trying to say that.

Even if our systems were less reliable than the Soviets', I wouldn't tell you because I don't intend to give aid and comfort to the enemy.

Senator **Levin**. Are you saying that they might not then be as reliable?

General **Vessey**. I think if we want to discuss reliability of individual systems, we ought to go into closed session, Senator.

Senator **Levin**. General Vessey, would you be able to give us an estimate as to how many measures of military power there are so that we could compare ours with the Soviet Union's?

General **Vessey**. There are a number beginning with size of forces, certainly capability of those forces to carry out the missions assigned. I think those are probably two of the most important.

Senator **Levin**. Two measures?

General **Vessey**. There are lots of measures. We have discussed measures of effectiveness of strategic nuclear forces here.

Senator **Levin**. How many measures of military power are these? Ten? A thousand? How would you measure military power? Could you give us an estimate of that?

General **Vessey**. I have not even given that any thought, Senator. I am sure it depends on your perspective. You can analyze it from a dozen different perspectives.

Senator **Levin**. Thank you, Mr. Chairman.

My time is up.

Chairman **Tower**. Senator Kennedy?

Senator **Kennedy**. Thank you, Mr. Chairman.

I want to join in welcoming the Chiefs of Staff this morning to the committee. As a new member of the committee, I am increasingly impressed by both the background and experience of all the Chiefs and also by their independence.

It is interesting also to see their unanimous recommendation in favor of the Scowcroft Commission.

JOINT CHIEFS FAVOR SCOWCROFT COMMISSION REPORT

I believe that my first question was asked earlier of a different panel by a member of this committee that is, if it were not for political considerations, would your judgment concerning the deployment of this weapon system be the same as that made by the Scowcroft Commission?

I will ask General Vessey.

General **Vessey**. Back to what I said earlier, the Chiefs were unanimous in their view that we need to improve the ballistic missile force primarily for effectiveness which gets a bit to the point that Senator Levin was talking about. He was talking about reliability which is only one of the contributors to effectiveness.

We were unanimous in that agreement, because of the targets that we must be able to attack on the other end.

We were in disagreement on whether or not the uncertainties could be resolved at deployment time to settle for closely spaced basing. The fact that closely spaced basing is not going to be approved or appeared not to be approved, certainly indicates to us that we needed to find another method.

So, I would say that political considerations did come into it. Any consideration that has to do with getting the missile deployed would have come into our deliberations.

Senator **KENNEDY**. From what I understand you to say, I am not sure that you are responding completely when you suggest that any basing mode that assures deployment of the MX missile is your primary consideration.

We must judge whether this deployment clearly makes sense from a strategic point of view. I think you touched on this. I hope that we can discuss it in greater detail, including the point of view of cost and effectiveness.

General Scowcroft and former Secretaries Schlesinger and Brown all said that political considerations aside, they found the MPS to be the best basing mode.

Do you agree or differ with this assessment?

FAVORS BASING MODE THAT ADDS TO SURVIVABILITY

General **VESSEY**. I am not in complete agreement with that. I would say that anything that adds survivability, that complicates the Soviet targeting problem, has military utility as long as we are willing to pay the price. MPS can be defeated by fractionization, which the Soviets are doing; simply adding enough warheads to defeat it.

But it certainly would add to the survivability of the system.

Senator **KENNEDY**. Could I get a response from the others?

The question is: Were it not for the political considerations, would you have opted for a different mode of deployment than that recommended by the Scowcroft Commission?

General **GABRIEL**. This goes back a long way. You might detect a sense of urgency on the part of the Air Force to get the MX because we are concerned about what happens at the other end and the serious imbalance that we have now and our capability for prompt hard-target kill. We have tried, as you bring out, the MPS, the CSB.

I don't think the basing mode is as important as getting something with the capability. What we have there now does not have good capability against their prompt hard-target kill. Those weapons they have in the ground are much harder than they used to be and are much more accurate than they used to be.

The most important thing is to get the MX in the field. You are suggesting, would we have made our decision to support the Commission's recommendations in the absence of political considerations? To my mind, it depends on what one judges a political consideration to be. If you call a political consideration that Congress denied the CSB, then I would agree that political considerations played a role. While there was still some technical uncertainty with CSB, I was willing to buy those technical uncertainties. I think CSB did provide some increased survivability.

Putting MX into Minuteman silos depends on overall triad survivability. Survivability of the missiles themselves would be a little better than what we have out there now because the MX missile is tougher than the Minuteman, particularly in the launch and flight phases. The important thing though, it is a whale of a lot better in terms of capability to do the job. Therefore, it will give us much improved deterrence over what we have today.

It will give us the other side to the arms control table, which we don't have today. Obviously they are not serious about it.

It will also show resolve with the allies and with the world and especially with the Soviets that we are going to stay in the ball game.

Senator **Kennedy**. Would you have selected this system?

General **Gabriel**. Yes.

BASING MODE FAVORED BY VARIOUS CHIEFS

Senator **Kennedy**. From strictly the military point of view?

I understand the political constraints as well as the testimony given by the Chiefs. I think that when asked for a military response, the Chief's testimony is independent.

Now, from a military point of view in your pecking order for deployment options, where does the placing of the MX in fixed, Minuteman silos rank?

General **Gabriel**. Right now it is No. 1.

Senator **Kennedy**. I understand that it is No. 1 right now. But from a military point of view, what is the best option.

General **Gabriel**. What I would have selected is CSB. That is not an option in my mind now. The most important thing is to get the MX in the field because we need that capability to hold at risk his missiles.

Senator **Kennedy**. And your opinion, General Meyer?

General **Meyer**. For the past 2½ years I have recommended the MX in the Minuteman holes, so you are talking to an apostle.

Senator **Kennedy**. Is that with hardening?

General **Meyer**. Whatever hardening we can do over time and whatever breakthroughs we can get in ballistic missile defense.

Senator **Kennedy**. Admiral Watkins?

Admiral **Watkins**. Senator, I was one of the three that found technical and cost uncertainties in the closely spaced basing system last November and made the recommendation that we field the MX now for two reasons.

One is military. It seems to me inappropriate for this Nation to sit here under the threat of the Soviet SS–18 Mod 4 and SS–19 Mod 3, hard-target-kill capability against our deterrence and let it drift until perhaps sometime after the turn of this decade.

I believe there is a strong need now on an urgent basis to have a counterbattery-fire capability to the extent of only 1,000 warheads against the 3,000 warheads in the SS–18 Mod 4 fielded by the Soviet Union today.

Senator **Kennedy**. Is this the deployment mode that you favor?

Admiral **Watkins**. It is the mode I favor.

Senator **Kennedy**. Is it?

Admiral **Watkins**. It was the mode that I recommended to the Chairman, the Secretary of Defense and to the President last November, yes, sir.

Senator **Kennedy**. That is the most preferable mode? Has it always been the most preferable?

Admiral Watkins. From the military point of view solely, if I reject the budgetary point of view, then clearly you want them in hardened silos with ABM. The hardened force offers everything you need, but I don't think that is a legitimate position to take at this point in time.

Senator Kennedy. General Barrow?

General Barrow. From a military point of view the answer is yes. When we discussed this——

Senator Kennedy. This is the most preferable way?

General Barrow. That is right.

Senator Kennedy. You would not prefer what Admiral Watkins suggested: hardened silos and an ABM system?

General Barrow. Of course you would.

Senator Kennedy. That is what I am asking. What do you most prefer?

General Barrow. We want the MX out there with the best hardening [illegible] can have, exactly.

Senator Kennedy. Are the current Minutemen missiles now vulnerable in their silos?

General Vessey. Yes, they are.

Senator Kennedy. Does it make sense then to put the MX in the existing silos without hardening if there exists a clear problem of vulnerability?

General Vessey. Yes, because we are looking at the entire force, Senator.

Senator Kennedy. What percent of the 100 MX missiles to be deployed do you think would survive a nuclear strike without silo hardening?

General Vessey. It all depends on what sort of attack the Soviets initiate and what our response is.

Senator Kennedy. A well-planned assault on the land-based missiles. What percent do you think would survive?

General Vessey. If we rode out the attack, if it were to come today, about 30 percent would survive and as we move on later into the years, less if we do nothing else.

Senator Kennedy. Is it your belief that if we deploy the MX in the existing Minuteman silos, as recommended by the Scowcroft Commission, they would be more inviting targets for the Soviet Union because of their capability for hard-target kill.

General Vessey. Certainly it would be a high priority target for the Soviets. One has to look at the Soviet force. The Soviets have built a large force of hard-target killers. They have plenty of warheads to attack all the targets presented to them, with or without MX.

Senator Kennedy. My time is up.

Thank you.

Chairman Tower. Senator Cohen?

Senator Cohen. Thank you, Mr. Chairman.

General Gabriel, I came in, I regret to say, at the tail end of some of your responses. I hope I don't take them out of context. I thought I heard you say we didn't have deterrence now. You don't really mean that, do you?

General **Gabriel**. I don't recall saying that we don't have deterrence now.

Senator **Cohen**. I think in response to Senator Kennedy's question you indicated we don't have that deterrence now.

General **Gabriel**. What I was saying is that we don't have a good capability to attack his ICBM's.

Senator **Cohen**. You didn't mean we don't have a deterrence with the kind of force we have now, with the Minuteman force and the submarine force and the current bomber force serving as a deterrent for the time being at least?

SOVIETS LACK CAPABILITY TO DEFEAT ICBM'S AND SLBM'S SIMULTANEOUSLY

General **Gabriel**. Your answer is right. You have to look at it in the total context. We obviously have a deterrent. We are not at war today.

Senator **Cohen**. All the witnesses so far have testified that the Soviets do not have the capability of launching SLBM's and ICBM's simultaneously so as to defeat both the ICBM force and bomber force at that time. They have said the Soviets probably could not develop that capability until sometime in the early or mid-nineties, at which point we will have, theoretically at least, developed the single warhead mobile missile to provide a greater capability.

I was not clear on that issue.

General **Gabriel**. I am glad you cleared that up and I correct the record if anybody thought I said we have no deterrent. You are right, they have to make a selection in their targeting plan when they come after the bombers and the ICBM's today.

Senator **Cohen**. I think you also indicated that it is important, echoing General Vessey's statement, that to put their missiles at risk we ought to have that capability. But that assumes, of course, they survive. You can't put their missiles at risk unless they in fact survive. That would be a test which moves us into a somewhat different area, I suppose, in terms of launch under attack, launch warning, and a theory called prompt launch.

Frankly, I am not too clear what that entails. What does that mean, General Vessey? What would be a prompt launch?

General **Vessey**. You are throwing out a new term to me, Senator. I am not sure about that.

Senator **Cohen**. It is a new term to me.

General **Vessey**. Certainly in looking at it generally without getting involved in the jargon, the Soviets have to understand that if they are to initiate war with us, that we have the capability to do a variety of things to them. They won't know whether or not we have decided to launch after they fire.

Senator **Cohen**. On page 5 of your statement, General Vessey, at the bottom of the page, you indicate:

> The accurate MX warheads will let the Soviets know that their missile silos, their leadership, and associated command and control are placed at risk, and that their ability to achieve their war aims is seriously in doubt. Deterrence will be improved.

It is conceivable, is it not, to argue it would have the opposite effect, namely that the combination of accuracy and vulnerability does not necessarily enhance deterrence, but might in fact enhance instability in those crisis situations?

In other words, to the extent you have a more vulnerable higher priority target in a time of tension, that does not necessarily increase deterrence, but rather decreases stability? Isn't that also an argument that can be made?

General VESSEY. One can make it. I don't subscribe to it.

Senator COHEN. Let me say for the record that every defense expert who has testified before this committee for the past 4 or 5 years has made exactly that argument, that he would not want to put MX in a fixed silo for fear that you don't increase stability, but decrease stability.

That was the whole rationale for searching for more mobility. We were told for 4 or 5 years that the Minuteman force has become vulnerable because of the increased accuracy of the SS-18 and SS-19. That was driving the search for some sort of mobile basing mode to reduce the possibility of tightening the finger on the trigger.

That has been the rationale. Clearly, what we have come to, it seems to me, is a recognition that, at this point in time, a failure to go forward carries other complications, other overtones. Ultimately, this is a political and a diplomatic mission, more so than a military one.

NEW LINE FOR BARGAINING TO PROMOTE ARMS REDUCTION

In pure military terms, unless we are talking about a launch on warning, which I don't think this Nation has ever adopted as a philosophy, you are really talking about demonstrating to your adversary that you are going to open up a new production line for a very accurate, powerful missile with the hopes that will bring them to the bargaining table. We are saying, we now have this new line, and in the event you people are unwilling to negotiate seriously about arms reduction, then that line is going to remain hot, it is going to keep going forward.

Isn't that really what we are saying in using this? We are talking about a political lever. We are trying to force the Soviets to come to grips with the fact that a hundred MX's will not necessarily pose a first strike, and I agree with that. One hundred MX's plus Trident II, according to General Scowcroft, might pose a first-strike threat.

What we are really trying to do is use this open line as a lever to force the Soviets to come to terms with some sort of serious reduction. That is the rationale, isn't it?

General VESSEY. That is part of the rationale, but from the point of view we must use, we have to look at the prospect of deterrence failing and actually having to fight a nuclear war. We want to tell you that the hard-target-kill capability of the MX has a usefulness there.

We believe that therefore it adds to deterrence and reduces the probability of having to use them. That is really what we want to do.

Senator COHEN. There has been some suggestion, and I am not sure it is accurate, that the Mk 12A warhead is somehow not sufficient to be characterized as having a hard-target capability.

Do you agree with that?

HARD TARGET KILL CAPABILITY

General **Vessey**. Hard-target-kill is a function of accuracy, reliability, warhead yield, and the hardness of the target you are attacking.

Senator **Cohen**. What are you saying with respect to the Mk 12A warhead?

General **Vessey**. That with a given accuracy, and the accuracy in that equation is about three times as important as warhead yield.

What I am saying is that if you cut accuracy in half, you can cut the warhead yield by a factor of——

Senator **Cohen**. I understand that. I am asking, do you feel the Mk 12A warhead, although not as accurate as the MX missile, has a hard-target-kill capability, as you understand it today?

General **Vessey**. If you put the right sort of accuracy in it, it would have hard-target-kill capability. The Mk 12A warhead on the Minuteman III with the accuracy that it has today does not have the hard-target-kill capability.

Senator **Cohen**. What is the CEP of the Minuteman?

General **Vessey**. I would have to give you that in closed session.

Senator **Cohen**. General Vessey, does the Pershing II have any mobility to it as contemplated now?

General **Vessey**. I would like General Meyer to answer that question.

General **Meyer**. It is a totally mobile system.

Senator **Cohen**. I am not saying whether this would be a highly desirable thing to do, but I am wondering if there is any way to add a third stage to the Pershing II?

General **Meyer**. Let me talk to the Pershing II.

We have had some people take a look at some feasibility studies of upgrading the Pershing II to an ICBM.

It looks as though if you took—I won't get into it for classified reasons, but I will provide you the details of it later, Senator—if you took pieces from various things such as Minuteman and others, there may be ways to do that, but we are not sure yet because we are not far enough into the development of it to have all of the answers. There are companies who say they can do it, but there have been companies that told me they could do a lot of things that they have not been able to produce.

[The information follows:]

MODIFYING PERSHING II

The Pershing II cannot, by a simple modification, be turned into an ICBM. A Pershing II modified to ICBM range would be significantly different. The most promising approach for modifying the Pershing II is to use Pershing II propulsion as a baseline and make changes in other system components. The concept involves modifying current 1st and 2nd stages, adding new 3rd and 4th stages, installing a Trident stellar guidance system, replacing the proposed reentry vehicle (RV) with a Minuteman II RV, and upgrading ground support equipment. The main concern for such a concept is the difficulty in integrating the existing parts of the system.

Senator **Cohen**. Is it fair to say that you are looking at the MX really as a stopgap measure, that it is to be the bridge between where we are today with the Minuteman force and where we hope to be with the mobile single warhead missile in the future?

General VESSEY. No, I would not call it a stopgap measure, but I would call it a transition step. The MX will give you things that the smaller single RV missile won't give you. That is, it has the throw-weight not only to carry 10 warheads, but to carry larger warheads, to carry penetration aids, things of that nature. It will be able to go after hard targets.

What we are learning about hardness may make attacking very hard targets difficult with the size missile that the Commission proposed, for example. That is something we have to find out in the future.

Senator COHEN. In your judgment, do those things which the MX gives you outweigh the value of the mobility?

General VESSEY. In the near term they do.

One of the things that we have learned and one of the things the Commission pointed out is that there is no single system that is going to be invulnerable. That is tying all these capabilities together, flexible force, makes the total force more survivable.

Senator COHEN. My time is up.

Thank you, gentlemen.

Chairman TOWER. I want to comment briefly on this business of the extent to which this decision was driven by political considerations.

It seems to me to be a little bit pious and hypocritical if we rejected a recommendation because political factors were taken into consideration in making a final judgment. This is, after all, a democracy. What the military does has to be responsive to the legislative process.

Unlike the Soviet Union, professional military men do not participate to a great extent in the making of major policy decisions. It is done by civilians. The military is controlled by civilians.

We often, in this body, have made military decisions that were perhaps contrary to those the professional military men acting independently might have made. We do it in the acquisition of weapon systems.

We do it in the area of military construction. I think that the Commission was really forced to make some political judgments.

The military is responsive to the civilian policymakers who determine what the policy should be and whether or not and how it will be implemented by military means.

In fact, I think many who raise concerns about survivability at this point are people who have not supported previously recommended basing modes that were regarded as more survivable.

I think that there are a number in the Congress who don't want to see us modernize our strategic force. Members who are very honestly motivated by the feeling that if we don't modernize, we are more likely to come to an arms control arrangement to guarantee the peace of the world and the security of the United States. I don't subscribe to that opinion, myself.

Now, I know that we rarely hear anybody openly advocate going to a diad, but I suspect there are some closet diad advocates among us.

I think that Admiral Watkins pretty well addressed himself to the question that I am about to ask and, therefore, it might be redundant.

FUTURE ABANDONING OF LAND-BASED LEG OF TRIAD

I would like to hear a specific expression of opinion on the part of each of the service Chiefs as to whether or not they feel that in the next two decades or in the foreseeable future we can safely, without risk, abandon the land-based leg of the triad and put our reliance wholly on the sea-based and air-breathing legs.

First, I would like to ask General Barrow and he can view this from the posture of aloof objectivity in that his service is the only one of the four represented here that doesn't have some direct responsibility over strategic weaponry or overall strategic deterrence.

General Barrow, what is your opinion?

General BARROW. From what I know now, and I must say I have been subject to an inordinate amount of presentations on this subject that we are addressing today, and from what I know now the answer is that we cannot fall off the triad in the next two decades, we must maintain the triad concept.

Chairman TOWER. General Meyer?

General MEYER. As you know, I have had to address that issue in great detail personally the last 7 years and have provided advice to former Chiefs as far as the SALT II agreement and as part of the impact of resources going into strategic forces bears upon our ability to carry out the conventional role.

I have to continually look at that issue. I decided in starting from square A as we went through the decision when I was G-3 of the Army that we needed a triad. I reviewed it again from square A when this new administration came in.

I would say that I do not believe that we can safely—without risk—go for the next two decades with a diad and without having a capability of a land-based missile.

General GABRIEL. It is pretty obvious that I feel the same way as the Commandant and Chief of Staff of the Army.

When you consider that the Soviet Union has 75 percent of its warheads in silos right now and that is going to remain that way for some time to come, they are going to focus on the land-based ICBM's.

There are a number of other reasons, and we have talked about them before, such as having a hedge against technological breakthroughs in any one leg of the triad; if you only have two, it will allow them to concentrate on the two and get some breakthroughs that you thought they couldn't get.

There are obvious reasons that at least for the next 20 years, and I suspect longer than that, we are going to be required to have some sovereign basing of land-based ICBM's. So the triad is most important.

Chairman TOWER. Admiral Watkins, do you want to expand on your earlier statement at all?

Admiral WATKINS. I will stand on it, Mr. Chairman, but I would like to add that if you look at the legs of the triad, they each have unique features of strength:

Submarine-launched ballistic missiles are survivable, a good reserve, that allows the National Command Authority to be able to execute a war-termination strategy. In the event of a preemptive strike, for example, the SLBM leg is still there.

Bombers can be launched without commitment; they are recallable. They are unique in that regard.

ICBM'S MORE ACCURATE

ICBM's: a prompt response after attack is still possible. Recognizing the vulnerability of the leg and the fact that we could lose many early, it is still a deterrent to the Soviets. We will have an MX that can go after command and control or hardened silos.

The land-based system is more accurate. It is true today that comparable accuracies have been achieved in the sea-based and land-based legs, but inherently ICBM's are more accurate.

We have to worry about that in the years ahead, we have the potential requirement to deal with hardened silos exceeding 10,000 psi. In the combination of the three legs you have unique properties, all of which can be called upon individually or in combination with each other and a variety of scenarios you can develop that I think are absolutely critical.

I believe it would be a serious mistake to be looking at something that would allow the Soviet Union to focus its resources on two out of three areas.

Chairman TOWER. I would also like a comment from not only General Vessey, but the other members of the Joint Chiefs on my next question.

In their appearances before this committee, members of the Scowcroft Commission, the Secretary of Defense, and Secretary of State, have indicated the desirability of perhaps changing the thrust of our negotiating posture and trying to obtain an arms-reduction agreement with the Soviets which results in a shift from an emphasis on launchers to one on warheads and throw-weight limitations.

It is my understanding that in the past members of the Joint Chiefs have tended to resist such a proposal. I would like to know what your views on this are now.

General Vessey?

General VESSEY. Mr. Chairman, the joint chiefs agree with the Commission that the best measure is warheads and that throw-weight is an important adjunct to that because it tells you what size warheads you can use.

PRESIDENT'S START PROPOSALS

I would say that the President's START proposals are a very significant move in that direction.

We believe also that there is some usefulness in constraining the numbers of missiles themselves. The point the Commission brought up we may have to rethink.

Limiting the number of missiles if we were to go to the single reentry vehicle missile is a point that is well taken and one that deserves some study, but I will point out that even with the 850 limit there is room, we can see a possible force to have sizable numbers, several hundred single missiles, single RV missiles.

I would like the other chiefs to comment.

Chairman TOWER. General Meyer?

General MEYER. I completely agree with the Commission that we need to readdress the way in which we go about looking at our START position so that it protects the ability to be able to have the small mobile missile.

I don't think that should come as a shock to anyone. I think we need to have enough flexibility as we look at the options that we present that we don't rule out the capability to have fewer nuclear weapons in the future which provide us the kind of deterrence and stability we need. So, we ought not rule out anything which gives us the capability of reducing warheads and gives us greater stability.

Chairman **Tower**. Admiral Watkins?

Admiral **Watkins**. I agree with my two colleagues. It is a move in the right direction to go to warhead limitation as well as throw-weight surrogates for warhead limitation. It is the proper thing to do to force down the total numbers of reentry vehicles in the world.

General **Gabriel**. I also agree, warheads are the most important measure to worry about. We have not thought about throw-weight much. That will play in the negotiations and I think there is sufficient room in negotiations ahead of us, in START, that we can allow the possibility of the small missile to be taken into account.

Chairman **Tower**. General Barrow?

General **Barrow**. The warhead is the best measure of count and when combined with the considerations of throw-weight you can certainly achieve a greater degree of verification. It simplifies things if you stick to warhead counts.

Chairman **Tower**. My time is up.

Senator Exon?

Senator **Exon**. Gentlemen, I, too, want to welcome you before the committee. Your input and views are always interesting and vital to us when we make our decisions.

DEPLOYMENT OF 100 MX MISSILES IN MINUTEMAN SILOS

Let me get into this matter of the Commission's and the President's recommendation that we deploy 100 MX's in Minuteman silos.

How does that make the Soviets work harder?

I guess the general testimony we have been hearing is that if we go ahead and deploy the MX in Minuteman silos that are not protected, just the silos we have there now, that somehow that would take away some of the Soviet strength that they could otherwise deploy on the other two legs of our triad.

I would certainly say that I believe everyone on this committee agrees with your thrust that it is important that we maintain a balance in our triad. We already have and recognize the fact that whether there is a Minuteman in that hole or whether there is an MX in that Minuteman hole, that they are already targeted.

The Soviets, it seems to me, and correct me if I am wrong, without moving a single dial would leave their same warheads targeted to those holes that we have been led to believe would be destroyed in a first strike.

How does deploying 100 MX's in Minuteman silos require the Soviets to work harder or commit more of their forces to that particular deployment?

General VESSEY. Senator, you said it exactly correct. It would not require them to work any harder. The force they have now would probably attack in much the same way with the Minuteman there.

The one thing it does, knowing that the Soviets cannot be completely confident of a 100-percent disabling strike, is let them know that we have missiles and warheads that can attack their hardened command and control facilities which will keep them from being able to carry on the war after that point and control their strategic reserve forces for follow-on parts of the battle.

Now, what does it do? It keeps them from concentrating on the others.

I guess the suggestion was here if we don't modernize our land-based force, but let the Soviets concentrate their very large research and development on defeating only two legs rather than three legs of the triad, they are more likely to achieve a breakthrough in R&D on such things as antisubmarine warfare.

I will ask the other Chiefs if they would like to add something to that.

General GABRIEL. We have discussed earlier—I am not sure you were in here—the attack strategy of the Soviets. You are right, the vulnerability would be about the same.

What would bother the Soviets more, of course, is that they would have to realize and understand that their own silos and their own missiles are now going to be at risk a great deal more than they are today.

They will have to put together their attack strategy accordingly. There will be deterrence, a greater deterrence in my mind, when we get the MX, a much greater deterrence than what we have today, because the Minuteman can exact only a very small damage today against those fields.

The MX would be a quantum jump better, many times more, and it is classified to tell you how much. So it becomes much more important. They could do just as well against MX, if we try to ride out, as the Chairman has said, they could do just as well. But they don't have any assurance that we are going to sit and ride out, they still have to make a decision of what to attack first. If they elect to go after the SLBM's and bombers, the nuclear detonations will give us ample time to deploy our ICBM's.

As you know, the beauty of the ICBM force is you can have 99 percent of them ready to go, bolt out of the blue, and get them off rapidly.

You are right, we are not more survivable unless we take the proper action, as was said, prompt execution in the event of an attack.

Senator EXON. I guess we could fairly describe that as launch under warning or something like that?

General VESSEY. Not necessarily.

General GABRIEL. Not necessarily. There are two situations. The choice of either simultaneous launch of their ICBM's and SLBM's or simultaneous arrival of these systems on selected targets.

If they are going for our bombers and they make a simultaneous launch of their ICBM's and SLBM's, then their SLBM's will arrive much sooner, giving our ICBM's plenty of time to escape. If they choose simultaneous arrival, then you are going to see the ICBM's 30 minutes before they hit, with their SLBM's launching out at something like 10 minutes before their ICBM's arrive. This would give our bombers plenty of time to escape.

There would be a lot of warheads headed your way and you would have time to make the decision you have to make.

MAKING THE SOVIETS WORK HARDER

Senator Exon. Let us explore this a bit more about making the Soviets work harder because that is obviously at least one of the major considerations we have to make in planning our deterrent which I think we all agree is tremendously important.

One of the things which concerns me somewhat that I have not heard any comment about and maybe you can enlighten me, as we take out the first Minuteman that is replaced by the MX, what are we going to do with that Minuteman?

General Gabriel. They will probably be used as test vehicles. But could be used to replace some Minuteman II missiles if we decide it would be worth doing.

Senator Exon. At the present time I have maintained and there have not been many other voices raised in that regard, that to some extent we are unilaterally disabling by taking out at the rate of about one per month our Titans at the present time.

Would it make any sense, if we are talking about making the Soviets work harder, to start placing the MX, at least 53 of them or 40 of them or 20 of them, in the Titan silos and then move into the Minuteman field after we have used up those numbers of holes that we have available?

What I am saying is I don't believe that we could under the SALT agreement drill new holes, but we do have under the SALT agreement the use of those 53 Titan holes, whatever they are worth.

We could put any missile in those I believe and not violate the SALT agreement.

My question is: Why would it not make sense, if we are talking about making the Soviets work harder, to use all of the holes that we have available to us under the present SALT agreement and to begin at least establishing those in the Titan holes?

It would cost more money, I recognize that, but we are spending a lot of money anyway. I just think we should develop the most effective deterrent possible.

It worries me a little bit when we are saying we will put that new 10-warhead missile in there. I know it is more accurate and I know it will give you more capability, but why are we unilaterally giving up the 53 Titan holes without at least exploring the possibility of making some use of them to confound and make the Soviets work harder?

General Gabriel. You mentioned the main thing, the expense of it. It is an option, an option we would have. It would take some time to pull it off. If we did 50 of them it would buy us 150 more Minuteman III warheads.

If we went the whole route as Senator Nunn was talking about earlier, went ahead and gave the Minuteman III AIRS accuracy and made it capable it would make more sense. It would not be worth much to put them down there in the state they are in now because they don't do that much damage on the other end.

Senator **Nunn**. You mean the Minuteman.

General **Gabriel**. The Minuteman III he is talking about putting in the Titan hole.

Senator **Exon**. I am suggesting why don't we put the MX in those holes.

General **Gabriel**. That, too, would cost more money. Placing MX in Minuteman silos requires only minor modifications as compared to major work that would have to be done to put them into Titan silos. It will cost a lot more to put them in the Titan holes.

If you are trying to maximize your capability within the SALT constraints, that would be an option. It would be a rather expensive option, I should think.

General **Vessey**. Could I add something?

Under the SALT I agreement there is a trade between the Titan missiles and submarine-launched missiles. It would mean what we would do now, taking the Titan's out, keeps us from reducing our submarine-launched force faster than we would otherwise have to.

So, in terms of effectiveness and cost it makes more sense for us to go ahead with the submarine force and add those missiles there in compliance with the arms control agreement.

Senator **Exon**. What do the Russians have to take out to deploy the new missiles that they are proposing and we say they are testing?

General **Vessey**. The Soviets have already dismantled 12 SSBN's. As I pointed out earlier when you weren't here, the SSBN's they are dismantling are newer than the newest Poseidon boats that we have.

Senator **Exon**. My time is up.

I hope you might provide for the record what you would estimate the cost would be if we decided to go to that option, how much the cost would be and whether or not if we decided to go that way, we could make those Titan missile holes operational for the MX about the same time the MX would be available to place in that hole.

General **Vessey**. I will be happy to.

Senator **Exon**. Thank you.

[The information follows:]

TITANS SILOS

We examined this option in late 1981, following the President's October decision to modernize our strategic forces. The cost estimates we developed then are no longer current, but we found that it would be much more expensive to place the missiles in Titan rather than in Minuteman silos. Primary reasons for greater cost include the need for three complete sets of base support facilities vice one set for the Peacekeeper in Minuteman silos, more extensive silo upgrades, and C^3 interconnectivity between Titan sites.

There are other problems associated with deployment in Titan silos. First, if we decided to deploy more than 54 missiles, we would have to move to a Minuteman wing anyway as there are only 54 Titan silos. Second, the Titan silos are spread widely apart and the three Titan wings are located in different states. Finally, Titan bases are located further south than Minuteman bases.

This increases the distance from launch points to targets, reducing flexibility and targeting efficiency. For these reasons we do not recommend deploying Peacekeeper missiles in Titan silos.

Chairman TOWER. Senator Warner?

Senator WARNER. Thank you, Mr. Chairman.

Gentlemen, we welcome you today. Throughout these hearings it has become increasingly clear to me that this decision is being driven by arms control considerations which at the present time outweigh military considerations.

My colleague from Maine, I think, has very eloquently stated the case earlier today for the two of us in preceding sessions in connection with this program.

LEAPFROGGING MX IN FAVOR OF SINGLE WARHEAD MISSILE

Now, given that, you and your successors are more or less the continuity and trustees of these building programs as successive administrations and leaders come and go. The questions I have to put to you are whether or not we can leapfrog MX and go straight to the single warhead missile which has considerable hope for even greater improved arms control measures?

I have done some research with the obvious three or four contractors that would step into the breach here and quickly make this smaller missile. I think in fairness to them I should say they are not advocating any particular position. They have just stated very pragmatically what they can do and what they can't do.

My first question goes to the admiral.

Recalling how this Nation went to general quarters and built the Polaris program, you were somewhat junior at that time, but you recall how the Navy was given the green light by the administration and in due course put together an extraordinary program and built those Polaris submarines in a period that was shorter than the estimate.

Am I not correct on that?

Admiral WATKINS. About 7 years I believe, Senator Warner.

Senator WARNER. My concern is that budgetary constraints in a year or two may force us to refocus attention on this strategic program, particularly if we have some successes, and I anticipate we will, in arms control.

Right now we have a confluence of programs coming together with IOC's between roughly 1986 and 1993, which includes Stealth, Cruise, B-1, MX, and Midgetman in the latter part of this period. We cannot be unmindful of the likely budgetary impact, not only on the Nation as a whole, but on your other programs, particularly in the conventional area.

I think we have to focus our attention carefully on this potential problem. If 2 or 3 years from now that budget crunch were to prove severe, and we proceeded on a collision course, we would be so far along with the MX that we might not be able to switch and add production funds for the single warhead missile, and thereby lose some of the advantages in arms control associated with that approach.

As a project manager, General Gabriel—you would be the overall project manager of both programs—have you looked at what the Navy did in building the Polaris program, and have you considered going to the President and saying we can do this in less time?

General **Gabriel**. You are speaking of doing, I guess, a transition from MX to the Midgetman?

Senator **Warner**. No. My point is if we made the threshold decision here that, given the consideration that we need the pressure of an active ICBM program to drive arms control, we could in fact leapfrog MX and go straight to an accelerated program on the single warhead missile. Have you looked at what the Navy did to build the Polaris program as a model, because right now I cannot find any evidence that this was examined as a model, role model, for the purpose of accelerating the small missile?

General **Gabriel**. No. We have not looked at how fast it could be done and see whether we could do it in 7 years.

The modern missiles we have brought in recently have taken about 10 years from the time you start until you get it in the field unless you have very much concurrency and high risk.

I should think that the small missile, even though it might be smaller, you still have the accuracy and survivability problems to consider and they are bounded by the state of the art and technology.

I would be very uncomfortable, of course, to think that we might try to do that. In the meantime, we know now we can get the MX, we have pretty good confidence of getting it in 1986.

We do have a problem today in my mind with a degraded deterrence and an imbalance in this area in hard-target prompt kill. The MX is the only thing that is going to bring it in the near future——

Senator **Warner**. The Trident II will certainly begin to fill part of this vacuum?

General **Gabriel**. The Trident D–5 I hope will come through on schedule in 1989 and beyond and will also help this, we do need it. I would not suggest, I don't think my Navy counterpart or chairman would suggest, that the D–5 would replace the MX.

Senator **Warner**. To some extent the Cruise missile will have hard-target kill capability?

General **Gabriel**. Cruise will not have prompt target kill.

Senator **Warner**. I understand its lack of promptness, but nevertheless it will have a hard-target kill capability.

General **Gabriel**. The Cruise is the same as the bombers, but they get there too late unfortunately to do the job that we need to get done. We need to limit his second and third waves and deny him use of his reserve forces. We want to be able to slow down and disrupt the pace and control of his attack.

Senator **Warner**. If I understand your reply, it is that you have not individually or together with your staff looked at a means by which you might be able to accelerate the Midgetman within a time frame comparable to the IOC, give or take a year, of the MX?

General **Gabriel**. We have not done that for the reason I suggested. I don't think it would be a good idea.

General **Vessey**. We did look at whether or not it would be desirable to pursue that. The Chiefs as a body looked at that and concluded that we should not do that. We need to field the MX for a very important operational consideration. It is not just arms control and whether or not it could be done.

To attack that uncontrolled variable in that whole exercise now, that is the target hardening that the Soviets have undertaken, to give us the throw-weight and warhead capability at the other end to attack those hard targets, we have decided we need to field the MX now.

Senator WARNER. To someone not as familiar with the intricacies as those of us who are active in these matters, we fought World War II in a little less than 4 years practically from scratch and won it.

PURSUING MIDGETMAN MISSILE

I realize the technology has gone much further, but you are telling me that we cannot build this new small Midgetman missile—given that we are working on D–5, we have cruise technology, all of this MX technology, all these missile manufacturers out there with an R&D base ready to go—in a period of time to bring it in maybe not to coincide directly with the IOC of MX, but within a year or two?

General VESSEY. I did not say we could not do that. I suspect if we put our minds to it and took the strings off our pocketbook, that that could be done.

I am saying that there are operational reasons why you should not do that. You need to pursue the MX.

Senator WARNER. That is very important. Let us clarify that.

Hypothetically it might be possible to accelerate Midgetman within the time frame, give or take a year or two, of the IOC for MX?

General VESSEY. With a great deal of concurrency in the development and great deal of risk. If you want to accept that, you might do that.

Senator WARNER. You are saying from the operational viewpoint, that is unwise?

General VESSEY. Yes, sir.

Senator WARNER. Would you elaborate on the distinctions operationally between the single warhead missile and the MX that would argue against doing such a thing?

I apologize for not being here throughout this hearing. We have a natural gas hearing upstairs where my attendance was necessary.

General VESSEY. The great uncontrolled variable in the whole arms race, if you want to call it that, the situation between the Soviets and the United States has been on the defense side.

While we have done nothing to harden and have dismantled our ballistic missile defense, dismantled our air defenses, the Soviets have gone on to build theirs up. They have continued to modernize the ballistic missile defense that the treaty authorized and have hardened their command and control facilities and their missile silos to a degree that a few years ago we didn't believe could be reached. They have done that.

As we talked earlier, it is threatening those things at the business end of the trajectory that is important to deterrence. With a 30,000-pound missile we are not sure what sort of hard-target kill capability we can get right now against the hardening they have today, to say nothing of what might happen to hardening in the future.

So, we believe it is important that we have both these capabilities: the medium missile that the MX will represent with the flexibility in its throw-weight to provide heavier warheads and penetration aids to get the missile to the target to do the job that has to be done at the other end, while we continue to examine the small missile.

Senator WARNER. It is your point that both systems are essential and that we would indeed keep the MX for a considerable period?

General VESSEY. We woud indeed keep the MX.

Senator WARNER. Supposing this Nation shifted to the arms control concept associated with the single warhead mobile missile, what would happen to the MX at that point?

General VESSEY. The MX would continue to be in the force.

Senator WARNER. My time is up.

Thank you.

Chairman TOWER. Senator Quayle?

Senator QUAYLE. Thank you very much, Mr. Chairman.

I hope I don't plow over ground that has already been covered.

Senator COHEN. We have to clear the record first.

Are you closet diad?

Senator QUAYLE. I am a closet diad. Personally I would like to come out of the closet and shake the hand of the real diad.

Be that as it may, I would assume that in your going along with the Commission's report that the basic and most important aspect is that we have to go ahead and deploy the MX to show the political will. I would assume that would be a statement that you would all agree with.

Now, deployment is the most important aspect. One of the other aspects that is certainly inherent is the arms control aspect. The arms control aspect where it looks like they are recommending a change in going away from heavy emphasis on launchers to more emphasis on warheads and yield.

I would also gather that you would agree with that assessment, that perhaps we ought to emphasize more warheads and yield, not saying that launchers are irrelevant because they are relevant, but the way arms control has gone in the past, launchers have been the dominant theme and dominant area of discussion.

I would presume in embracing the Commission report, you would also embrace that idea as well.

Is that correct?

THRUST ON ARMS CONTROL

General VESSEY. Yes; that is correct. We concur with the Commission's thrust on arms control.

I would also add that we are not just adding MX because of showing political will. It has very important military utility that we need in the force.

Senator QUAYLE. If in fact we are going to be more interested in warheads, given the fact that the most important thing is to deploy the MX, under the present scenario, we will be actually increasing our warhead capability on a net basis of 700, is that correct?

General VESSEY. That is correct.

Senator QUAYLE. I wonder if a 700-warhead increase is an ironclad situation and I wonder if in fact, as we try to change our arms control posture and our arms control policy, that instead of going ahead with 10 warheads on the MX that we might not consider, say, going ahead with 5 warheads on the MX?

We will lose a few warheads. You lose half of them, but you still get the missile which is the most important thing.

If, in fact, we cannot get an agreement as far as emphasizing warheads at the START talks in which you are not talking about limitation, but reduction, but we are going from 3 to 10 and then we are going to 1 with the Midgetman as a single warhead, I wonder if we are really truly going to embrace that philosophy in the Commission's recommendations, that we might be open to consideration of the number of warheads that should be deployed on the MX?

General VESSEY. The important thing about the MX is not just the number of warheads, it is the quality of warheads and what they can do at the other end. It adds 1,000 warheads of the type we do not now have to threaten targets that we need to threaten for purposes of deterrence.

The President's START proposal proposes reducing warheads dramatically from the levels that both sides now have. When the JCS told the President that they endorsed that proposal, they endorsed it with the caveat that it include a modernization of all three legs of the triad because at reduced warhead levels it is more important to have the good new modern warheads.

Yes, you could field it with five, but it would be unwise because you would be keeping in your force the older Minuteman II warheads when you really ought to be adding warheads of the MX quality to threaten the targets at the other end.

Senator QUAYLE. If we have 5, we would be getting 500 new quality MX warheads?

General VESSEY. That is right.

KEEPING THE SAME ARSENAL

Senator QUAYLE. We are going to keep those Minuteman II warheads anyway? We are going to keep the same arsenal? You are not going to change that?

General VESSEY. It all depends on what the Soviets do in arms control. If the Soviets were to accept the President's arms reduction proposal, we would be reducing warheads significantly.

Senator QUAYLE. And you could reduce warheads significantly, as you pointed out, if you would go from 10 to 5 and then if we are going to start down the road, and this is the point, if we are going to start down the road to really emphasizing warheads, it sort of escapes me why, considering that the deployment of the MX is imperative, because the quality of the missile and the quality of the warhead is imperative, we jump from our MIRV's of 3 to 10 with the idea that we are going to go back to 1.

I would think if we can't get an agreement and we are going to go ahead with the MIRV's—I would imagine some might think would be a far more stable world if we didn't have the MIRV's, but we have them and they have them—one of the more important ideas in the Commission's report is the fact that we are going to get back to a single warhead which a lot of people would like to see.

Whether we can get that or not is a question. A lot is predicated on what the Soviets are doing. Deployment is the single most important aspect, quality is the second. As we debate this and really show we are concerned about the number of warheads, by going from 10 to 5, it escapes me why we might not consider this as a viable option to show that we really are not just after the MX missile in this Commission's recommendations.

That is part of it, but there is another very, very important part, and all of you understand and appreciate that—that the people in this committee are talking about—and that is the arms control issue.

It seems to me we might consider instead of adding a net 700 or 1,000 new warheads to our arsenal with the idea we might control or reduce, that we might consider 500.

General VESSEY. Yes; we might. I am saying that we are not simply going back to one warhead. We are adding the survivability of the single warhead, possibly mobile missile, to the MX force.

If we were to reduce warheads, we would reduce the less modern warheads; those that are less accurate, the missiles that are less accurate or the warheads that are less useful at the other end because we have to look at the military utility of weapon systems as well in case deterrence fails.

Senator QUAYLE. Obviously, in the negotiations you could delineate between the SS-18's and SS-19's, the Minuteman II, the MX, the actual quality of the warhead in getting limitations and reductions, and if we can't get a comparative agreement, then obviously we would have the option as long as the missile is deployed of, say, going from 5 to 10. But if we can't get an agreement with the Soviet Union, I don't see how much we are going to lose and it might be a signal that we are embracing emphatically the idea and sensitivity to the number of warheads.

QUALITY OVER QUANTITY

I understand we prefer to have the quality and you are comparing the additional MX warheads with the Minuteman II's.

I would hope that in thinking this thing through as we go, whether it is to the build-down concept that Senator Cohen and Senator Nunn are talking about, or whether it is the arms control emphasis on the warhead the Commission is talking about, that this may be an option that the Congress ought to look at.

I think from a qualitative advantage that you are not really going to lose that much because you certainly have an option, if you don't get agreement once the missile is deployed, to go from the 5 to the 10 or even more than that if you wanted to.

General VESSEY. I would go back to the point we raised with the President. If we do move to substantially reduced numbers of warheads, because of the disparate nature of the targets, it is more important to have those fewer numbers of warheads be the high-quality warheads.

Senator QUAYLE. Would you be willing to take out more as far as the tradeoff, more of the warheads, more of the Minuteman II's, to show we are serious about reducing the number of warheads if we in fact wanted to go that route?

Would that be your preference?

General VESSEY. That would be my preference, but I wouldn't reduce any of them unless the Soviets did.

Senator **Quayle**. If, talking about warheads, we, say, go ahead with the 10 would you take out more of the Minuteman II warheads?

General **Vessey**. Yes, sir.

Senator **Quayle**. General Gabriel, could you give us a bottom line figure on what the net reduction will be as far as the budget impact of the Scowcroft Commission recommendation concerning the line item of MX, the deployment, also the R&D?

I presume there will be a savings for fiscal year 1984, am I correct?

General **Gabriel**. In then year dollars, about $1.3 billion in 1984.

Senator **Quayle**. Over a 5-year period of time what would be the net savings of this recommendation?

General **Gabriel**. It depends on how much is added for the R&D of the small missile and for superhardening and fratricide and other things. We will probably spend about $7 billion on these things.

Given such expenditures, I would guess savings in the vicinity of about $3 to $4 billion could be realized over the 5 years. It depends also on how much is taken out of that for the new strategic mission on defense, the new annoucement by the President that we are going to get serious about defense.

Senator **Quayle**. The space-based antiballistic missile defense?

General **Gabriel**. Yes; the new strategic initiative on defense.

Senator **Quayle**. The $1.5 billion in 1984 is in authority and outlays?

General **Gabriel**. That would be authority.

Senator **Quayle**. And outlays?

General **Gabriel**. Well, outlays, I don't know.

Senator **Quayle**. It does not always transfer.

General **Gabriel**. It doesn't, but it would be close. It is more nearly 1.4 authorized, sought outlays would be, I suspect, something else.

Senator **Quayle**. How much less? Do you have any idea?

General **Gabriel**. About 60 percent.

Chairman **Tower**. I think Secretary Weinberger is going to provide those figures for us.

We will go now to a second round.

We have yet to have the confirmation hearing for General Wickham. Therefore, I am going to limit the second round to 3 minutes each. That will not apply to Senator Stennis who reserved about 5 minutes of his time from the previous round.

Senator **Stennis**. Thank you, Mr. Chairman.

I will be quite brief because I know we are pressed for time.

JUSTIFICATION FOR THE TRIDENT SUBMARINE

I want to raise this point. General, one of the most precious, auspicious, and assuring things I have heard since I have been here is the justification for the Trident submarine, its long-range capability.

Now, with all the distress that we have here, I believe you are going to have a hard time getting the money. Money is going to be harder to get from this committee and the House Armed Services Committee. I don't say that critically of anyone, but I think we are going to be up against a hard pull.

It has been said that this Trident would have the hard-kill capability and the SLBM by 1990.

I direct my question to Admiral Watkins. If that is correct, what will be the situation when we authorize and purchase the 100 MX missiles in this new concept?

Admiral **Watkins**. I certainly would not want to see any tradeoff between those two systems. I believe they are both essential.

You are correct about the SSBN force moving from the Trident I to the Trident II missile. Trident II will have a hard-target-kill capability, with an initial operational capability estimated to be late calendar 1989. We believe we are on track and will achieve that objective.

We cannot accelerate Trident II further. I believe to have that hard-target-kill capability at sea in the 1990's is an essential option for the National Command Authority to have.

I can see no reason to change that opinion because I think it would be a serious mistake to in any way limit the sea-based leg of the triad. So, I believe it is essential that MX deployment and the submarine go concurrently.

Senator **Stennis**. So you are thinking in terms of having both of them?

Admiral **Watkins**. Yes, sir, I am.

Senator **Stennis**. We have the budget question. I wasn't suggesting a tradeoff either, but we ought to know what we are going into there. Your testimony is that in 1989 you will have this capability?

Admiral **Watkins**. That will be the initial operational capability going into the Trident submarine.

Senator **Stennis**. That is encouraging. Still you want the 100 now and think that that is necessary for our deterrent capability?

Admiral **Watkins**. Yes, sir, I do.

Senator **Stennis**. I think the combination of the MX missiles in the existing silos, the fielding of the air-launched cruise missile that is already underway, hardening of the command and control system, and the D-5 missile program are all essential. I believe that is the minimum acceptable deterrent package to deal with the Soviet threat.

That is all for now, Mr. Chairman.

Chairman **Tower**. I will say that all Senators may file additional questions in writing for response in the record with a deadline of, say, noon tomorrow. Is that adequate for everybody?

If they will, submit them to the Armed Services Committee office by that time. I will urge you, if you can, to shorten your questions and submit them for the record.

Senator Warner?

Senator **Warner**. Thank you, Mr. Chairman.

VERIFICATION OF A SMALL MISSILE

A question to General Gabriel and others if they wish to comment.

On the issue of verification of a small missile; the intrinsic value of the small missile is primarily its mobility, deception, things of that nature, all of which make it more difficult to fit into a framework of verification as we know that framework today consisting of national technical means.

In raising this issue yesterday with the Secretary of State, he opined that in all probability adequate verification of the small missile would occasion a substantial leap forward, probably involving some type of intrusive onsite element to verification.

What would be your view?

General GABRIEL. I suspect if we are going to have a high level of confidence on verification with this missile, we will have to have something better than national technical means, yes.

At one time we agreed in the SALT II protocol not to deploy mobile ICBM launchers or to flight test ICBM's from such launchers—of course, the protocal by its own terms expired on December 31, 1981.

The reason you want a mobile missile and the reason we want it is to improve survivability, they won't know where they are. There might be some means of making sure of the count when they crank out the missile at the factory so that we know how many they have and not worry about where they are.

In the verification process you have to do certain things to make sure that both sides have high confidence that you can verify and at the same time allow the operational cover in order to survive. That is the reason you build them in the first place, that is survivability.

I agree you have to have something better than national technical means in order to do that because they can park them like they do their SS–20's, in sheds, and move them back and forth, and it is a shell game and you don't know where they are or how many they have.

RAPID RELOAD CAPABILITY FOR SMALL MISSILE

Senator WARNER. Would you incorporate in the design of the small missile a rapid reload capability?

General GABRIEL. If that would fit with the negotiations and the other side is going to do it, we would have to do the same thing. They do have that, as you know, in their mobile missiles now. If they are going to do it, we would have to do it.

Senator WARNER. Would other members of the panel care to comment on the question of verification of the small, single-warhead missile?

General VESSEY. Certainly it does add to the verification problem and it is something which we will have to examine very closely. I believe that we will find ways to verify.

Senator WARNER. Thank you very much.

Chairman TOWER. Senator Nunn?

Senator NUNN. Thank you.

I will ask a couple of questions and ask you to furnish answers for the record.

I will direct these to General Vessey and I am sure General Gabriel will want to give his views.

If the committee were to go forward with the MX in authorization, but if we were to tie it to arms control even more directly than the Commission recommended and if we decided to authorize only a portion of the 100 MX missiles, in other words, we would authorize a portion, depending then on what the Soviets did in arms control and what we were able to do, we would either authorize or not authorize the additional portions, whether it was in two parts or three parts, would you furnish for the record the logical break point in the numbers from a procurement, efficiency, and effectiveness point of view?

General VESSEY. Both from operational effectiveness?

Senator NUNN. Operational effectiveness and from procurement effectiveness. I don't know whether you can do it with 25, 25, 25, 25, or a third, a third, a third, or 50 and then 100. I personally believe we are going to have to seriously consider that kind of option.

[The information follows:]

MX TIED TO ARMS CONTROL

Operationally it would be better to deploy Peacekeeper in Minuteman silos in groups of 50. This corresponds to one full Minuteman squadron, and a squadron remains the basic operational unit.

If a decision is made to proceed with Peacekeeper in a progressive fashion while measuring Soviet reaction, that decision should not be a basis to change the fiscal year 1984 missile buy. All 27 missiles requested in this budget must be procured to meet a late 1986 IOC and support operational test requirements. Furthermore, if it were decided that we would initially deploy only 50 missiles we would still have to procure a total of 173 missiles—50 for deployment and 123 for monitoring and testing throughout the system's life. We would want to buy those missiles at the most efficient rate possible, which we believe to be around 48 per year. With our planned procurement schedule, acquiring 173 missiles would take us into fiscal year 1988, by which time we should have some idea of Soviet reaction.

Since missile procurement funds are authorized and appropriated on a year-by-year basis, the Congress has the prerogative of approving or withholding funds during each annual cycle. Therefore, assuming Congress elected to deploy only 50 Peacekeeper missiles, appropriate action could be taken in the fiscal year 1988 budget cycle to close out the production line. If it was decided to deploy additional squadrons, we should continue to procure at the efficient production rate of 48 per year, adding approximately 1 year of production for each additional squadron.

Senator NUNN. The second question, if we were to combine an MX authorization with, let us say, what is known as the Cohen-Nunn 2-for-1 warhead reduction, put one in, take two out, would you identify for the record, if hypothetically that was happening, which warhead you would take out of the inventory as a proposal offer?

I would ask you to do that with 100 also with whatever increments you have in this first question.

General VESSEY. The 100 MX?

Senator NUNN. Yes.

General VESSEY. Right.

Senator NUNN. It can be classified.

General VESSEY. It would be difficult to do this without classifying it.

[The information follows:]

COHEN-NUNN WARHEAD REDUCTIONS

The concept deserves serious consideration. Clearly the goal of the drawdown proposal is one the Joint Chiefs of Staff share with the President: reducing the number of nuclear weapons of the United States and Soviet Union. [Deleted.] We must, however, be cautious to assure such a proposal is not implemented in such a way that it would be disadvantageous to the United States or imperil national security. The goals of the President's force modernization program must be achieved and there must be parity and equality with the Soviet Union. In conducting this examination, we must be careful to take into account the relative positions of the United States and Soviet Union. To illustrate this point, three quarters of our strategic weapons are on launchers over 15 years old while the same fraction of Soviet strategic weapons are on launchers under 5 years of age. Therefore, while there is a compelling urgency for the United States to modernize, the same is not true for the USSR. If the United States modernizes as it must to restore the strategic balance, but the USSR does not, then the impact of the drawdown proposal would be imposed on the United States in a unilateral way. The consequences of such action could be severe. For example: with the Soviets presently having approximately 6,000 ICBM warheads (most already modernized as hard-target killers), our present 2,100 Minuteman warheads put the United States at almost a 3-to-1 disadvantage. In 1987, when we would be beginning to deploy the bulk of our Peacekeepers, the Soviets are projected to have more than [deleted] warheads. If both nations were to adopt 2-for-1 reductions, the result of deploying 1,000 new RVs on both sides would be a total residual force of 1,100 US. warheads and more than 7,000 Soviet warheads. By modernizing with Peacekeeper under these circumstances, we would therefore penalize ourselves by going from a 3-to-1 and 7-to-1 disadvantage. If we were to deploy warheads in increments between 100 and 1,000, we would expect the relative disadvantage to shift within the range of 3-to-1 and 7-to-1 accordingly. Similar disadvantageous results seem to occur with present plans for modernizing the bomber and submarine legs of the TRIAD when the "2-for-1 build-down" is applied. In summary, if the United States proceeds in modernizing its strategic offensive systems in parallel with reductions envisioned by our present START proposal, the United States and the Soviet Union could achieve relative equity. From that position of parity, the 2-for-1 build-down proposal could be used to achieve real reductions in strategic nuclear systems. Hence, while the proposal may well have merit, we need to plan for its implementation in a manner that will not jeopardize U.S. national security interests. We need to study the implications in greater detail.

Senator NUNN. I have no objection to it. It can be classified to whatever degree you want.

STRATEGIC PROGRAMS

The second line of questions I will ask for the record. We have now the Joint Chiefs having endorsed MX, upgraded Minuteman, new Midgetman missiles, previously endorsed the Trident submarine, implicitly endorsed the small submarine that the Commission recommended, previously endorsed the B-1, advanced technical bomber, previously endorsed Cruise missiles, advanced Cruise missiles and all of you endorsed upgrading C-3.

Gentlemen, that is a full platter of strategic programs. Do you believe we are shifting too much of our overall emphasis and therefore our resources over the next decade to strategic programs at the expense of conventional capability?

General BARROW. No, I do not, Senator. There has been a kind of commitment to the extent that we would not let this be more than about 15 percent of the total defense budget—I think I am correct in that—in any given year.

While it seems like a number of initiatives, with the aggregate cost spread out over the years at this time, it does not appear to be in competition with the general purpose forces. If it was, I would be one of the first to squawk. I support all the initiatives.

Admiral WATKINS. I agree with General Barrow.

General VESSEY. I agree. We looked very carefully as a body at ways to reduce some of those things in order to put more money in general purpose forces, but we came to the conclusion we could not.

General MEYER. As a body I have supported that, but that has been based on the present program. If the budget is reduced, I would have to readdress it because then clearly the conventional forces would suffer.

My answer depends on how low the defense budget gets.

Senator NUNN. I want to pose for the record the same question assuming the 5 percent defense budget average growth above inflation over the next decade. I would like you to furnish for the record the best projection you can of the strategic program as we now know it taking the cost over the next 10 years because I do not believe that analysis has been done in the Department of Defense, at least I have not seen anything approaching that.

General Gabriel?

General GABRIEL. I go along with what they have said obviously. I don't think 15 percent is too much. Like General Meyer, I worry about being able to do enough in conventional. The total spectrum is what we have to worry about.

Number one, the most crucial to us is strategic defense. I don't think it is too much.

[The information follows:]

STRATEGIC PROGRAMS BASED ON NATIONAL SECURITY

Plans for strategic programs are not based on growth rates nor on percent of GNP. Plans are based on the threat to our national security and what we need for an effective deterrence.

Modernization of our strategic forces to deter nuclear war has the highest priority in our defense budget and I certainly believe it should. Resources in the current 5-Year Defense Plan for strategic programs are less than 15 percent of the DOD budget for each year and average 12 percent over the 5 years. This equates to 1 percent of GNP over the period. Average real growth for strategic programs is 10 percent for the 5-year period but varies considerably from year to year because of the high cost of developing and deploying a new system and the relatively low cost of operations after deployment.

I cannot give you figures for the entire 10 years because our extended plans beyond the 5-Year Defense Plan are not fully costed and are subject to considerable change. If our overall defense budget for fiscal year 1984 is reduced to achieve a 5-percent real growth target, we must re-examine the balance between the various elements. As submitted, the budget is the minimum necessary for effective deterrence against nuclear and conventional aggression. It achieves a balance between strategic and conventional needs as well as readiness, substainability and modernization.

Finally, I must emphasize that our plans are subject to whatever may be achieved in arms limitation agreements and I certainly hope that significant and mutually verifiable reductions will result. In the meantime, we cannot reduce the threats to our security if we cut back while others continue building more and more.

Senator NUNN. If I could ask one other question.

General Vessey, have you seen any analysis that looks at the impact of this overall strategic program over the next decade and how it impacts conventional defense if you were to project a 5-percent growth rate?

General VESSEY. I have not seen a 5-percent growth rate.

Chairman TOWER. Senator Quayle?

ISSUE OF VULNERABILITY

Senator QUAYLE. This whole issue of vulnerability, I know it has been explored and certainly debated, do you believe that the so-called window of vulnerability, and all of its nuances, was overstated, overemphasized in the past?

General Vessey. That term is a very general term that has meanings that the hearer or user applies to it.

Senator Quayle. We are talking about the window of vulnerability, the vulnerability of the ICBM's, that is why we were driven to find mobile basing for the ICBM. Now we are coming back and putting them in the Minuteman holes.

There is still this vulnerability which everyone admits. Looking back at all the statements, if in fact they have been overemphasized, how much do we really know as far as the accuracy of what really can happen in a wartime situation?

Will they be able to come across here and hit within a certain area? I am wondering from a general point of view if there has been an overemphasis of this so-called window of vulnerability?

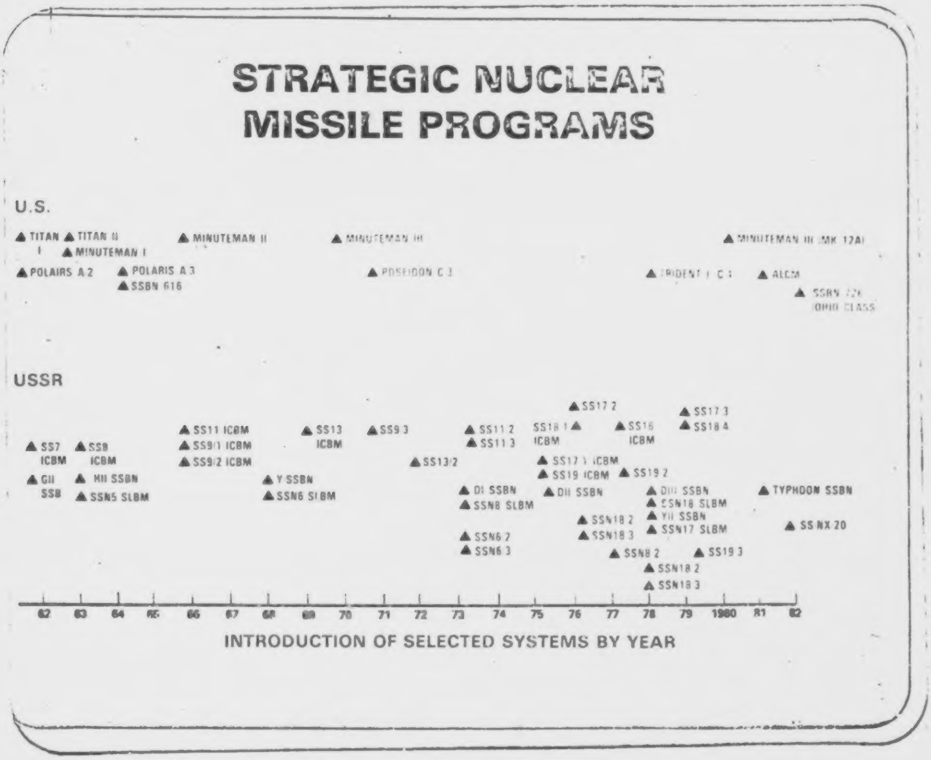
General Vessey. If one looks at the vulnerability of the United States and the vulnerability to the threat of coercion, I would simply take a look at this chart that we gave you.

Did you get one of these, Senator?

Senator Quayle. I don't have one.

General Vessey. Let us take a look at that chart because that addresses ICBM's and SLBM's.

[Chart referred to follows:]



Senator Quayle. That is basically the window of vulnerability.

General Vessey. I don't understand it that way.

Senator Quayle. How do you understand the window of vulnerability?

General VESSEY. I understand the window of vulnerability in the larger sense, that is where our strategic nuclear forces do not deter the Soviets, are not strong enough to provide a credible deterrence. That is my own interpretation.

Senator QUAYLE. Is it true—maybe General Gabriel can comment—is it true that what drove us to try to find a deceptive basing mode for MX is the vulnerability aspect?

I was under the impression that was the reason we had to look for a new basing mode. Is that correct or incorrect?

General GABRIEL. This term probably did come up initially, but I agree with the Chairman that I would look at the overall aspect of vulnerability of the Nation. I would like to look at it in terms of the triad.

It probably did come up initially when we found the Soviet ICBM accuracies were coming along faster and with better CEP's than we thought they could and when our Minuteman field became more vulnerable and sooner than we had intended, yes.

Chairman TOWER. Your time is up.

Senator QUAYLE. Can I have one other question?

Chairman TOWER. Submit it for the record.

Senator QUAYLE. If you want me to, I can.

Chairman TOWER. Please do that. We are pressed for time.

Senator Levin?

Senator LEVIN. Thank you, Mr. Chairman.

LINKAGE BETWEEN MX AND ARMS CONTROL

General Vessey, I want to pursue an extremely significant point that Senator Nunn raised and that has to do with the linkage between the MX and arms control and making that more express and explicit in any action that the Congress might take.

Do we have an interest in getting the Soviet Union to stop deploying new ICBM's? Is there a military interest in that?

General VESSEY. Yes, we do.

Senator LEVIN. Would you say that we would have an interest in getting them to stop flight testing any new ICBM's that might be permitted them under SALT?

General VESSEY. The important thing is to reduce the level of arms and make sure that at the same time we have the necessary security. So, instead of looking at little parts of it as a piece, one has to look at the whole.

Senator LEVIN. Following that general view, would you say it would be in our military interest if we could get them to stop flight testing any new ICBM's?

General VESSEY. It might be, yes.

Senator LEVIN. General, let me ask this question.

General Vessey, you gave us some figures on another matter, that they added twice as many warheads as we did. Now we are talking about strategic nuclear warheads and bombs in 1972 to 1982.

Can you give the figures?

General VESSEY. 3,600 and 6,000.

Senator LEVIN. Would you say, General Vessey, that survivability of the nuclear deterrent force would increase stability in a crisis and if our nuclear deterrent force is survivable, then that would increase stability in a crisis?

General **Vessey**. Yes.

Senator **Levin**. Would you say that the other side of the coin is true, that nonsurvivability of hard-target-kill warheads might decrease stability in a crisis?

General **Vessey**. Again, one has to look at the overall picture. One has to look at survivability of the entire force.

Senator **Levin**. Might that decrease stability in a crisis?

General **Vessey**. If one were looking only at that, if you put one hard-target kill missile out there is a nonsurvivable mode and that is your only deterrent, yes.

Senator **Levin**. General Gabriel, I take it that the surviving MX missile warheads, something like 5 to 30 percent of them, whatever it is, in the late eighties or nineties will be just part of the total surviving hard-kill capable warheads that we have.

I am not talking about promptness, but just in terms of total number of hard-kill capable warheads that would survive in the eighties and nineties.

General **Gabriel**. Where do the figures come from?

Senator **Levin**. A certain percentage of MXs would survive the first attack.

General **Gabriel**. If we choose to ride out an attack, the percentage would survive, yes.

Senator **Levin**. We would also have surviving other hard-target kill capable warheads, would we not?

General **Gabriel**. We would have, but they would not be prompt other than the D–5 Trident if you are talking about the late eighties.

Senator **Levin**. But the hard-target kill Trident would be prompt?

General **Gabriel**. It would be prompt enough, yes. Not as prompt as the MX, but prompt enough.

Chairman **Tower**. Senator Levin, your time has expired. You may submit additional questions for the record.

Senator **Levin**. Thank you, Mr. Chairman.

Chairman **Tower**. I am sorry we can't continue the hearing, but we are operating under time constraints.

I want to thank you, General Vessey, and all your colleagues, for providing this very vital contribution to the record we are trying to build on the MX.

General **Vessey**. I would like to add one thing to the line of questioning that Senator Levin was raising there. That has to do with the arms control.

As you look at what it would be nice to have the Soviets do, none of those things would be nice if it does not permit us to modernize our own force.

Chairman **Tower**. Gentlemen, please submit any additional questions you may have to be answered for the hearing record to the clerk of the committee.

[The following questions submitted by members of the Armed Services Committee to be answered by the Chairman and members of the Joint Chiefs of Staff:]

QUESTIONS SUBMITTED BY SENATOR CARL LEVIN

FIRST STRIKE POLICY

Senator LEVIN. General Vessey, since the MX will be deployed in vulnerable silos, and the Scowcroft Commission admits they will be vulnerable silos, is it not true that they only can be used effectively if we launch a first strike, or if we launch them after we have received unambiguous warning of an attack or after Soviet warheads already have begun hitting the United States.

If we do not launch first, or launch on warning or under attack, our MX will be destroyed and thus be useless to us for any type of counterattack. Doesn't that mean we are adopting either a dangerous first strike policy or a risky launch on warning or under attack policy?

ANSWER. We cannot look at ICBM survivability in isolation. The Scowcroft Commission reported that the diversity of the TRIAD drives the Soviets to make choices that significantly reduce their effectiveness against one component in order to attack another. For example, if Soviet war planners should decide to attack our bomber and submarine bases and ICBM silos with simultaneous detonations, then a high proportion of our bombers would be alerted by the Soviet ICBM attack and could safely escape from their bases before coming under attack. If, on the other hand, the Soviets chose a simultaneous launch of their ICBM and SLBM weapons, then a very high proportion of our ICBM systems could be launched in retaliation (after confirmed SLBM nuclear detonation on our homeland and before Soviet ICBM weapons could reach our silos). In looking at this Soviet dilemma it becomes clear that they cannot have confidence in the success of a simultaneous attack on our strategic forces today. Thus the diversity of the triad creates overwhelming uncertainty that would keep the threshold of deterrence high and discourage the Soviets from initiating an attack. In addition to this inherent triad survivability, another factor clearly demonstrates that Peacekeeper is not intended as a first strike system. Unlike the Soviet SS–18 and SS–19 force (approximately 3,600 warheads) which can target each of our ICBM complexes at over a three-to-one ratio, the 100 Peacekeeper missiles (1,000 warheads) proposed by President Reagan are not sufficient to cover Soviet ICBM complexes even on a one-to-one ratio. With this unbalanced mix of strategic systems, a disarming first strike by U.S. forces is clearly not a viable option. The real risk today is not a shift in U.S. policy, but rather the implication of U.S. failure to retain the capability to hold at risk the growing hard target structure of Soviet military and leadership facilities.

MX SURVIVABILITY

Senator LEVIN. If we do not launch first or launch on warning or under attack, there will not be enough MX missiles remaining to strike back in any limited or controlled way at all the remaining—or even many of the remaining—Soviet hard targets, the alleged justification for the MX by the Scowcroft Commission, is that not so?

Answer. This question implies a black and white distinction between a hasty and possibly ill-considered ICBM launch and a devastating full ride-out where the majority of U.S. ICBMs are destroyed prior to launch. Neither of these alternatives realistically portrays how such ICBMs would likely be employed.

The underlying requirement for Peacekeeper is to bolster deterrence by countering the continuing modernization growth of the hard target structure in the Soviet Union. For example, with the Soviets' highly accurate, multiple warhead SS–18s and SS–19's so well hardened against our ICBM's, the credibility of our deterrent force is increasingly in question.

Fortunately, the Peacekeeper can redress this effectiveness problem, and the diversity of the Triad provides an inherent survivability because the Soviets cannot simultaneously attack each element successfully. The Strategic Force Modernization Program recommended by President Reagan offers the best solution to redress the current imbalance in United States/U.S.S.R. strategic forces and establishes a foundation for subsequent arms reductions.

WORST CASE SCENARIOS

Senator LEVIN. In the "worst case" scenarios upon which we build our nuclear exchange studies, only between 5 and 10 MX might survive if they do not launch first or on warning or under attack. Of what use will only 50 to 100 MX warheads be in trying to retaliate against the 1000's of Soviet hard targets we would want to strike back against?

Answer. The attack scenario presented in this question ignores several key factors in the deterrent value of the Peacekeeper missile: Soviet perceptions and the element of uncertainty. The Soviets cannot assume that the United States would ride out an entire ICBM attack without retaliating. Thus, any attack they might plan must take a much higher proportion of our ICBM force into account. Their perception of our capability is an integral part of deterrence.

Another important factor in this complex issue is the element of uncertainty. Since the early 1960's, when the United States had a clear advantage in strategic forces, the Soviets have been making major strides in both ICBM capability and survivability. Their progress has been significant and they in fact have a clear advantage in several strategic areas today; however, the diversity and resilience of our Triad minimizes the chance for a successful Soviet attack. This Soviet uncertainty in the outcome of a conflict supports our policy of deterrence. The value of Peacekeeper should not be measured in terms of what a "worst case" surviving force could accomplish, but rather on the impact the deployed force will have on deterrence.

STRATEGIC NUCLEAR EMPLOYMENT SCENARIO

Senator **Levin**. Let me outline a typical strategic nuclear war scenario for you: 1000's of Soviet RVs have struck the United States, in addition to destroying our ICBM silos, bomber bases and submarine ports, have killed between 10–20 million Americans. The United States, in response, has launched its few surviving ICBM weapons against some Soviet hard targets and hundreds, if not thousands of submarine launched warheads against soft military targets. More than a hundred U.S. bombers are winging their way toward the USSR with 1000s of bombs and cruise missiles capable of striking hard targets. Nuclear explosions are going off all over the United States and the Soviet Union between the first 30 minutes when the Soviet warheads hit and the 30 minutes to 2–4 hours when our first ICBM and submarine warheads retaliate. Mushroom clouds and radiation befoul the atmosphere and millions of Russians are dying just as fast as millions of Americans.

In all the chaos and confusion of this hell on earth, do you really think that the leader of the Soviet Union is going to rationally pick up the telephone or whatever hot line is left and call whatever leader of the United States he can find who might have survived his first attack—all after the first 30 minutes to 2–4 hours of the war—and ask him to surrender and call off his bombers because unless we do, he will hit us again with more ICBMs.

Answer. The picture you have painted is exactly what we hope comes to the mind of any Soviet planner or leader who thinks he may have a good plan for nuclear war. That is the essence of deterrence! The fact remains that the Soviet Union continues to structure their forces and leadership to survive a nuclear conflict and achieve their war aims. These include neutralization (not occupation) of the United States and the occupation of Europe. Once the strategic nuclear threshold is violated, there is no reason to believe that the Soviet leaders would terminate without achieving their aims if they enjoyed a strategic and tactical advantage. The objective, therefore, must be to hold hostage the Soviet war plans by creating uncertainty and doubt that their plans could succeed. Modern weapon systems, with the accuracy and yield to destroy hard targets, are essential to this objective. Without an extremely high probability of knowing the United States reaction to a Soviet strike or a near perfect probability of destroying all these modern United States weapons before launch, the Soviet planner and leader is faced with great uncertainties.

ADDITIONAL TARGETS

Senator **Levin**. If a Soviet leader wanted to make such a threat, what additional targets could he hit in the United States to obtain some military or political benefit from without striking any targets located close enough to cities to threaten both sides with the mutual suicide, counter city exchange which is the ultimate, mutually assured destruction threat under which we and the Soviets both live? He already has struck our bomber bases, sub ports and missile silos.

What other hard targets in the United States are left for him to strike in a limited, controlled way?

Answer. We are not privy to specific Soviet targeting policy and strike plans; however, to achieve their objective of neutralizing the United States, the Soviets would also seek the destruction of our conventional forces, leadership, key communications nodes, and basic industries such as steel, heavy machinery production, mining, petroleum, electrical power, etc. Most of these targets are not currently hardened. Many of them are also located in or near large population centers; however, as a nation that sacrificed 20 million people in World War II in order to survive and win, and eliminated another 16 million in political purges for the good of the party, the Soviet Union is not so likely to be deterred by the threat of mutual assured destruction once nuclear war is joined. Subsequent attacks on U.S. leadership, communication, and industry are certainly possible given the elaborate survivability measures the Soviets have taken for their nuclear reserves, leadership, and key war supporting capability.

Senator **Levin.** If he can exert further blackmail or military advantage from striking our unhardened military facilities for conventional forces, or key industries, why couldn't we gain the same benefits from hitting his, during those first hours of chaos? And we certainly do not need MX ICBM warheads to do that. We can use sub launched RVs and certainly do not need the MX for that, correct?

Answer. We need Peacekeeper to place at risk what the Soviets value most; their strategic nuclear force, leadership, command and control capability, and war supporting industry. Major emphasis has been placed on the survivability of these high value targets through increased hardening efforts. Because the Peacekeeper greatly increases the vulnerability of these key targets it not only deters Soviet aggression, it encourages them to consider a more serious approach to arms reductions. Should we find ourselves in the combat situation you have described, the Peacekeeper would be employed against these same type targets to help strip the Russians of their nuclear reserves and warfighting capability. We certainly could respond to a Soviet strategic strike by attacking his military facilities, conventional forces, and key industries and in each case the United States would employ the most appropriate weapons available for those missions.

USE OR LOSE TACTIC

Senator **Levin.** Regardless of whether we strike back within 30 minutes with ICBM hard target kill warheads or 8–10 hours with hard target kill bombs and cruise missiles, why do you think the Soviet Union will wait for our weapons to destroy their weapons before launching them in a second strike in the classic "use or lose" tactic?

Answer. Soviet strategic forces are structured to meet all war aims [deleted] that includes a reload capability for ICBMs. In any first strike by the Soviet Union, they would attempt to destroy as much of our retaliatory capability as possible; however, we expect the Soviets would want [deleted]. They currently have sufficient numbers of hard target weapons to accomplish this. We believe they would then prefer to assess the damage before committing additional strategic weapons. In addition, the Soviets also count on a [deleted].

With Peacekeeper, in any basing mode, the Russians must fear this prompt retaliation capability and, therefore, allocate considerably more weapons against the threat posed by the Peacekeeper. Such a requirement will jeopardize their [deleted] thus placing additional doubt in the minds of both Soviet planners and leaders that they could achieve their war aims.

Senator **Levin.** When the Soviets do that, the MX warheads we have will be of little military effectiveness when they hit empty Soviet silos in the ground—silos just vacated by a second wave of Soviet missiles, is that not so?

Answer. As I stated previously, Soviet warfighting philosophy, as we know it, [deleted]. Additionally, there remains a large number of other high value Soviet targets such as [deleted] that would be appropriate for Peacekeeper strikes. In any of the major retaliatory options our NCA might elect to execute, there is a sizable requirement for hard target destruction capability.

Senator **Levin.** If you believe that MX is necessary to be able to engage in limited strikes and counter-strikes against the Soviet Union in the first 8–10 hours of the chaos of a strategic nuclear war before our hard target kill bomber weapons arrive—with our present forces—or within 2–4 hours after 1980 with Trident II sub weapons and 8–10 hours with bomber weapons—how many controlled Soviet attacks and limited United States responses do you envision during that period? If you cannot tell us that, how can you tell us that 100 MX are enough—too much—or too little— to be able to engage in this limited "tit for tat" war with the Soviets?

Answer. The question of whether Peacekeeper is necessary for limited strikes during the first 8 hours of nuclear hostilities and how many attacks/counterattacks will occur during those 8 hours are tied together.

First, a basic discussion of U.S. attack options is necessary. The U.S. nuclear war plan calls for a [deleted] nuclear response structure. [Deleted.] One of the intents of this complex flexibility is to provide the capability of escalation control. Currently within our general nuclear war plans there are [deleted] limited military attacks available to the NCA. The question of how many limited attacks will occur is situation dependent but the NCA has these [deleted] options to chooose from over that 8 hour period. The Peacekeeper will play a significant role in these limited strike options because, as you recall, the limited attack options [deleted]. The Peacekeeper with its hard target kill capability will provide the impetus to limit the exchange and could aid in conflict termination at some point short of unlimited nuclear war.

Senator Levin. In your strategic nuclear war scenarios, after how many limited strikes and counterstrikes within the first 30 minutes to 2–4 hours—or after the first 30 minutes and until the bombers arrive 9–10 hours later—have you established a policy that the United States has suffered enough damage so that it will escalate to a general, all-out nuclear war, or that the Soviet Union will have suffered enough that it will surrender?

If you have not established such a policy, how can you plan for how much hard target kill is required within the first 30 minutes or 2–4 ours or before the bombers arrive?

Answer. The key elements of our flexible response includes the following:

1. We will not initiate a strategic first strike on an enemy.

2. We will maintain a full range of retaliatory options as discussed in the previous question. The object of this policy is to maximize the deterrent effect of our strategic nuclear forces and at the same time allow the NCA the flexibility to meet a nuclear threat at any threshold level and yet retain the capability to terminate hostilities on terms favorable to the United States.

Senator Levin. If you have not established such policies, how can you convince Congress and the American people that it makes a meaningful military or political difference in the midst of a thermonuclear war that the United States have increased capabilities to hit Soviet hard targets within 30 minutes—i.e., to buy the MX—instead of the present and future hard target kill capabilities it will have to destroy these targets within 30 minutes, to 2–4 hours, to 8–10 hours, with the forces we already have or plan to have, without the MX?

Answer. We have established such policies as stated above. As far as convincing Congress and the American people, we anticipate that most Americans will realize the necessity to modernize all legs of our strategic Triad for effective deterrence of nuclear war and will support the bipartisan Commission's findings.

Senator Levin. Before he joined the Commission, the former SECDEF, Dr. Harold Brown, discussed the issue this way:

"There are many, many different alternatives that we can take under those circumstances if the Soviets were to shoot just at our Minuteman, assuming that we didn't fire back before they were destroyed. In that case we could hit their urban industrial complexes, we could hit their conventional military forces, we could hit their nuclear forces. The only thing that is missing from this scenario is the ability to hit their strategic ICBMs within half an hour or an hour instead in the midst of a catastrophic thermonuclear war."

Isn't it true this still remains the case today, thus obviating the need for the MX?

Answer. The accurate, prompt, hard-target capability of the Peacekeeper is not solely to threaten Soviet ICBM silos. It may also put their leadership and associated command and control at risk and contribute greatly to deterrence by putting in doubt that the Soviets can achieve their war aims. It is the capability o fthese missiles in combination with sea-based ballistic missiles and bombers with air-launched cruise missiles which provide the broad range of capabilities whose synergism complicates Soviet planning, provides us with flexibility and provides an important hedge against technological surprise by the Soviets in neutralizing any particular leg of the Triad.

MX UTILITY

Senator LEVIN. Since the military utility of prompt hard target kill missiles is extremely in doubt, and since their political utility either during such a war or in international crises must therefore be discounted, doesn't the Administration's decision to deploy MX really boil down to it just wanting to have a missile as big as some of the newer Soviet missiles, regardless of whether we need those missiles because of all our other forces and the Minuteman IIIs themselves. Doesn't it mean we are trying to match Soviet ICBM capabilities not because we need to, with all our other systems, but because they are not ICBMs? Aren't we playing a foolish game of one-upmanship with the ICBMs, which not only is not needed for military or diplomatic purposes and is not very useful for them, but which only drives the arms race even higher and increases, rather than decreases, nuclear instability?

ANSWER. To understand the need to deploy Peacekeeper and the need for strategic modernization and why it will increase stability, the differences between United States and Soviet nuclear strategy must be highlighted.

United States nuclear strategy is to deter Soviet attack or coercion of the United States and its allies or, should deterrence fail, to protect vital United States and allied security interests by terminating the conflict at the lowest possible level.

Our nuclear forces are designed to: (1) deter nuclear attack on the United States and its allies, (2) help deter major conventional attacks against United States and allied forces, and (3) prevent Soviet nuclear blackmail against the United States and its allies. In order to achieve these objectives, United States nuclear forces must be capable, regardless of circumstances, to respond to a Soviet first strike with sufficient forces to retaliate effectively. The Soviet leadership's perception that we will retaliate against any aggression in such a manner as to mak the costs outweigh any potential benefits the Soviet Union might hope to gain is central to the credibility of our policy of deterrence. If the Soviets have a much greater nuclear capability than the United States, they might come to believe that they could fight and win a nuclear conflict on favorable terms. If this were the case, they might be far less inhibited in their actions around the globe, and more willing to risk war in the pursuit of their objectives. Furthermore, if our allies and friends around the world perceived that we were unable to assist them because of Soviet military preponderance, they might become vulnerable to Soviet threats and blackmail.

Soviet nuclear strategy differs substantially from Western concepts of deterrence. While Western strategists have been primarily concerned with deterring both conventional and nuclear attacks, Soviet doctrine and forces emphasize the ability to fight and win a nuclear war. Soviet military doctrine does not contemplate a sudden, unprovoked nuclear attack, but does emphasize the importance of maintaining forces sufficient to achieve victory by pre-emptive devastation of their opponent's nuclear capabilities, while limiting damage to the USSR. Not only have Soviet leaders spoken of the possibility of victory in a nuclear conflict, they have also designed, built and continue to modernize forces that will enable them to achieve their war aims. Over the last decade and a half, the Soviet Union has engaged in a massive strategic arms buildup that threatens the survivability and retaliatory effectiveness of our current ICBM force. Specifically, the Soviets have developed and widely deployed numerous large and highly accurate ICBMs that are capable of destroying most of our ICBM silos and critical command, control, and communications facilities. They also have hardened their missile and C^3 silos to the point that our Minuteman force has only limited capabilities against them.

The President's Strategic Modernization Program provides the initial measures that address both the vulnerability of our strategic systems to a Soviet first strike and the current less-than-satisfactory capability of our strategic systems to hold at risk or destroy, in a retaliatory attack, those highly valued military and leadership elements key to the achievement of Soviet war aims. The Peacekeeper and D–5 ballistic missile systems and bomber modernization efforts, including the B–1B, the Advanced Technology Bomber and the air launched cruise missile, will possess sufficient accuracy and power to counter the present Soviet monopoly in large accurate ICBMs and to hold at risk the full range of Soviet assets. When fully deployed, the Peacekeeper will bolster deterrence by eroding Soviet confidence in their ability to conduct successfully a disarming first strike against the United States. The D–5 missile will provide improved capability in prompt hard target kill capability, offsetting the advantage held by the Soviet Union with their larger numbers of powerful ICBMs.

The United States has selected and sized its forces to enhance deterrence, not to achieve a disarming first strike capability. The Peacekeeper is not designed to be a first strike weapon. The deployment of Peacekeeper and the deployment of a submarine-launched missile with hard target kill capability (D–5) strengthen our deterrent capabilities by making clear to the Soviet Union, or any other potential aggressor, that there would be no advantage in initiating a nuclear conflict.

Deterrence and stability are to a large extent conditions of uncertainty determined by each side's perception of the other side's capability and intent; for this reason they are difficult to quantify definitively. [Deleted] would achieve their goals using their planning factors. The Soviets today have over [deleted] ICBM weapons; more than [deleted] of these are considered hard target killers and are on alert (SS–17, 18, 19). Since January 1982, the Soviets have put over [deleted] improved hard target warheads on their SS–18s and SS–19s. This increased accuracy, when combined with the number of available ICBM warheads on just these ICBMs, gives the Soviets the capability to achieve at least a [deleted]. After completion of that attack, the Soviets would maintain more than [deleted] weapons as residuals. The entire U.S. target base is softer than the Soviet base by [deleted] and the U.S. target base of interest to the Soviets in achieving their war aims is smaller than the Soviet target base by [deleted] as a result of SS–18/19 residuals and their other unused ICBMs would be able to achieve [deleted]. Today the best timely U.S. weapon (MMIII, MK–12A warhead) has [deleted] percent probability of killing a Soviet SS–18/18 silo. Even when forces are generated, the United States does not have sufficient appropriate weapons (ICBM plus SLBM) to [deleted].

The capability projected for Peacekeeper and D–5 will enable the United States to hold at risk, for the first time, a significant portion of the full range of Soviet assets. The improved accuracy of these weapons will afford a [deleted] probability of kill of about [deleted] percent against SS–18/19 silos maintained at today's hardness levels. The expected accuracy of the Peacekeeper and D–5 [deleted]. Even with the U.S. strategic modernization program, the Soviets will enjoy a [deleted] of timely weapons appropriate for use against hardened silos. Based on intelligence estimates of Soviet programs, the United States would [deleted].

A closer balance between the Soviet and U.S. strategic forces and the continued emphasis on the synergistic capabilities of the balanced U.S. strategic nuclear triad will significantly raise the uncertainty for the Soviets in their assessment of gain/loss by a first strike, thus increasing the level of stability. The President's Strategic Modernization Program makes significant strides in overcoming the imbalance of capability in timeliness, hard target kill, target coverage and assured connectivity, all of which favor the Soviets today. In reinstating the strategic balance between the two powers, however, the United States has deliberately not created the capability to conduct a credible first strike. The number of weapons to be deployed does not remotely insure destruction of the entire Soviet ICBM force, the leadership of the Soviet Union or their command and control capability. This deliberate capability shortcoming clearly underlines the U.S. nuclear strategy of deterrence and the maintenance of an effective retaliatory capability.

The deployment of Peacekeeper will help redress the imbalances that have developed over the past decade. In the future, adding the small single warhead ICBM coupled with aggressive effective and verifiable arms reductions offer the prospect of increased stability. In addition, the President's long-term goal of effective defense against ballistic missiles provides a blueprint for deterrence well into the next century.

QUESTIONS SUBMITTED BY SENATOR STROM THURMOND

MX IN MM SILOS

Senator THURMOND. Critics of the proposal to base MX in Minuteman silos claim that this is no more an option than other proposals and they charge that this proposal is simply a politically palatable solution. Is this proposal militarily viable in light of the fact that this basing option has previously been determined non-survivable?

ANSWER. We agree that the silo based Peacekeeper does not have the survivability we desire when viewed in isolation. However, as the Presidential Commission pointed out, the elements of the Triad are mutually supporting. No weapon system or basing mode is invulnerable and guaranteed to remain invulnerable. For every basing mode, one can postulate possible counters. Installing Peacekeeper in Minuteman silos does not alter the survivability problem. It is, however, a militarily useful solution to United States strategic force requirements despite the fact that this basing mode does not achieve a high degree of survivability during a complete ride-out of a Soviet attack. It increases operational capability; it deploys a modern ICBM in the class of the SS–19; it provides improved accuracy and yield necessary for hard-target kill capability which complicates their planning; and it does provide the Soviets with a powerful and convincing indicator of United States will and ability to modernize our strategic deterrent. We believe these signals will be strong incentives to the Soviets to remain at the negotiating table in Geneva and to negotiate seriously meaningful and verifiable arms reductions under START.

MX SIGNALS ALLIES

Senator **Thurmond**. Proponents claim that we need the MX to signal our resolve to our allies that we are willing to modernize our Strategic Forces as we modernize our Theater Nuclear Forces. Do you agree with that position?

Answer. Yes we agree. It would be difficult to maintain the imperative with our European Allies to deploy land-based INF missiles on European soil, should negotiations fail, if the United States does not commit itself to modernizing land-based strategic missile in the United States. Strong support for the Peacekeeper will both demonstrate our resolve to maintain a credible deterrent and strengthen our negotiating position in START. Deployment of Peacekeeper will also provide direct evidence to our allies that we are willing to shoulder the same responsibilities they are being asked to assume. If we cancel the Peacekeeper program, Soviet incentives to negotiate seriously on arms reductions will be significantly diminished both in START and the Intermediate-Range Nuclear Force negotiations. However, it is the military usefulness of the Peacekeeper which is the most important reason for fielding it.

FEASIBILITY OF ADDITIONAL PERSHING II STAGE

Senator **Thurmond**. The Commission recommends that we begin Research and Development on a small single warhead ICBM. Witnesses have testified before this Committee that it will be the early 1990s before such a system could be deployed. What is the feasibility of adding another stage to the Pershing II missile and enhancing its overall capability?

Answer. The Pershing II cannot, by a single modification, be turned into an ICBM. A Pershing II modified to ICBM range would be significantly different. The most promising approach for modifying the Pershing II is to use Pershing II propulsion as a baseline and make changes in other system components. The concept involves modifying current 1st and 2nd stages, adding new 3rd and 4th stages, installing a Trident stellar guidance system, replacing the proposed reentry vehicle with a Minuteman II RV, and upgrading ground support equipment. The main concern for such a concept is the difficulty in integrating the existing parts of the system.

IS CONVENTIONAL MODERNIZATION SUFFERING?

Senator **Thurmond**. Although I am very supportive of upgrading our Strategic Forces, I am also very concerned about our conventional modernization. The Army's Division 86 is beginning to look like Division 88. The average age of our Air Force fighters is increasing each year, and the 600-ship Navy becomes a more distant goal. Do you feel that conventional modernization is suffering?

Answer. No. In the context of the President's fiscal year 1984 budget, the JCS reviewed the strategic program at length and in depth and concluded that a proper program balance has been struck. The JCS would readdress the balance of investments between strategic and conventional forces if large budget cuts occur. Still, we are unanimous that strategic force modernization is necessary. As the President indicated in October 1981, in no year do strategic forces require more than 15 percent of the defense budget. That statement remains true. It should further be noted that throughout the decades of the 1970s and early 1980s, the U.S. strategic deterrent has largely lived off the capital investments made in the 1960s.

QUESTIONS SUBMITTED BY SENATOR SAM NUNN

MINUTEMAN MISSILE SYSTEM

Senator NUNN. On March 17, 1983, I wrote you a letter with a series of questions on the Minuteman missile system. On April 15, 1983, I was provided with a series of answers with a cover letter from Major General James P. McCarthy. I would like to determine if the answers provided represent the view of the Air Force and have your approval? If not, what answers do you disagree with and why?

General GABRIEL. The reply you received from Gen. McCarthy on April 15, 1983, was prepared by my staff after analyzing the best estimates available from our engineering and acquisition resources. Those answers have my approval.

MINUTEMAN RETIREMENTS AND MODIFICATIONS

Senator NUNN. What are the plans, if any, for retiring the Minuteman force in light of the planned MX deployment and the new small missile?

How long do you plan to keep the Minuteman force (minus those displaced for the 100 MXs) operational?

General GABRIEL. There is a lot of uncertainty about how far we will take Minuteman. It will depend on a number of factors, including arms control negotiations, the small missile and the time frame deployed, and whether or not we get Peacekeeper. Initially we plan to retain our entire Minuteman force except for those missiles removed to accommodate Peacekeeper deployments.

Retaining Minuteman missiles will also depend on the cost effectiveness of continuing to stretch their life-span when today they have a declining effectiveness against the hard targets that the Soviets are building. If we cannot improve their effectiveness, I question how long we would want to extend them.

Senator NUNN. What modifications to the Minuteman force are already underway and are in the 5-year budget plan, irrespective of the MX deployment?

What modifications will be done to the Minuteman force in terms of needed improvements irrespective of the MX deployment?

What modifications or improvements planned and/or already underway in the 5-year plan will not be done now on account of the MX deployment plan?

General GABRIEL. The following modification programs are currently underway and will continue to be funded irrespective of the MX deployment:

Modification title	Fiscal year 1984 request (millions)	Years of procurement funding
Minuteman extended survivable power	$23.4	Fiscal years 1981–84.
Malmstrom and Minot AFB security system retrofit	12.6	Fiscal years 1981, 1984–85.
Minuteman II guidance system update	27.7	Fiscal years 1981–88.
Hardened intersite cable system	3.6	Fiscal years 1982–85.
HF hard antenna system replacement	3.0	Fiscal years 1983–85.
Guidance system cooling unit	4.2	Fiscal years 1981, 1983–85.
Ellsworth AFB G&C cooling unit	5.1	Fiscal years 1983–84.

The following modification programs are planned to begin in the deployed Minuteman force and are required even when MX is deployed:

Modification title	Fiscal year 1984 request (millions)	Fiscal year 1984 procurement funding
Missile procedures trainer upgrade	$4.2	Fiscal year 1984.
Compressor failure monitor	2.1	Fiscal years 1984–85.

Additionally, the Air Force plans to continue reliability, maintainability and safety modifications to insure the continued supportability of the Minuteman weapon system once the 100 MX missiles are deployed.

There are no modification programs underway now or planned uniquely for F. E. Warren AFB launch control or launch facilities. No programs will be stopped because of the planned MX deployment.

MINUTEMAN III

Senator **Nunn**. Would it make operational sense to add an additional 50 Minuteman III missiles to the current force? How long would this take and how much would it cost?

General **Gabriel**. The Air Force had planned to replace 50 Minuteman IIs with a like number of Minuteman IIIs. This program would have alleviated a shortage of Minuteman II flight test vehicles, and would have added to the capability of our ICBM forces. Five million dollars were appropriated in fiscal year 1982 and used for site preparations at Malmstrom AFB, Montana. However, the money needed in fiscal year 1983 to complete the program was deleted by Congressional action. If additional funding, now determined to be approximately $10.3 million, were provided the program could be completed within a year.

MX—TOTAL NUMBERS

Senator **Nunn**. How many MX missiles will actually have to be procured so the Air Force can deploy 100 in Minuteman silos—including test missiles, spares and missiles needed to insure operational reliability? In other words, how many MX missiles will actually be built in addition to the 100 planned for actual deployment?

General **Gabriel**. A total of 223 Peacekeeper missiles are required. Of these, 100 would be deployed in existing Minuteman III silos, while the remaining 123 are needed for ground and flight testing to assess operational reliability throughout the life of the system and for spares.

MX DEPLOYMENT DATES

Senator **Nunn**. When will the first MX missile be operationally deployed in a Minuteman silo (month and year)? What is the schedule from that point forward until the 100th MX is operationally deployed (how many per month)?

What is the number of MX missiles that will have to be authorized and funded in the fiscal year 1984 budget to meet this schedule? How many in the 5-year plan by fiscal year? Is there any plan to try and recoup any fiscal year 1983 MX procurement funding?

What is the military construction schcedule for the preparation of the Minuteman silos so the MX can be operationally deployed? At what point in the preparation phase will the operational Minuteman missile in the silo have to be removed? How far in advance of replacing it with an operational MX?

How much R&D and military construction funds will be needed in fiscal year 1984 and in the 5-year plan by fiscal year for the necessary work to prepare the silos for the MX?

General **Gabriel**. The first Peacekeeper is planned to become operational in October 1986. Peacekeeper will be deployed at the rate of 2 to 3 missiles per month for the 36 months following December 1986.

Twenty-seven missiles are planned in the fiscal year 1984 budget request. There are 208 missiles planned during the FYDP as follows: fiscal year 1984–27, fiscal year 1985–37, fiscal year 1986–48, fiscal year 1987–48, fiscal year 1988–48. There is no plan to try and recoup any fiscal year 1983 procurement funding.

The construction program is planned as follows: fiscal year 1985–20 silos, fiscal year 1986–30 silos, fiscal year 1987–30 silos, fiscal year 1988–20 silos. The Minuteman missile will need to be removed approximately 5 months prior to Peacekeeper becoming operational in order to complete required assembly and checkout.

R&D funds are not needed to prepare the sites for Peacekeeper. The on-site construction funds are planned as follows: fiscal year 1985–$5.1M, fiscal year 1986–$8.1M, fiscal year 1987–$8.5M, fiscal year 1988–$5.9M.

TECHNICAL ASSESSMENT OF MX—DOD REPORT

Senator **Nunn**. General Vessey, I would like to read you the following description of the MX in Minuteman silos from DOD's own technical report: The system survivability is lower than other alternatives; the system endurance would be less than for the other fixed Peacekeeper alternatives; resiliency is poor.

I would like to read another part of the technical assessment—this time from the comparative assessment section: Differences in deterrent value are largely due to variations in survivability. All three closely spaced basing alternatives provide outstanding deterrence. Deep basing and MPS are rated good. The remaining system provide fair deterrence.

For the current threat capability, all systems, except the Minuteman silo alternatives provide outstanding survivability.

Minuteman silo alternatives are rated poor in resiliency since these can be defeated by the current Soviet threat.

The defendability of the Minuteman alternative is rated fair.

General Vessey, it seems to me DOD's own report rates the MX in Minuteman silos at the bottom of the list in deterrent value, resiliency, endurance, and survivability.

Do you agree?

General **Vessey**. Not entirely. The DOD Technical Report examined each of the various options in isolation, which is necessary in such analysis. It is not possible to place each variable examined in the total context and derive any totally persuasive conclusion. While the DOD report is an accurate reporting of one type analysis, those conclusions must then be placed in the larger context of the overall military structure. Deterrence stems from more than survivability. One must consider each part of the strategic Triad deterrent in terms of the overall threat; political realities such as cost, schedule, and environmental impacts; and the arms control negotiating environment. Considered in this larger framework, MX offers a substantial increase in military capability, it contributes to political perceptions by our allies of our commitment to NATO, and most importantly it sends a strong signal to the Soviets. Our objective is to deter war at the most economical force level. MX has the potential to make significant contributions to the overall reductions in nuclear weapons.

SUPER-HARDENING

Senator **Nunn**. General Gabriel, the Commission's report states that while "new concepts and developments in hardening are quite promising . . . eventually the survival of even the hardest (ICBM silo) would be doubtful."

In testimony Monday, I asked the witnesses their judgments and conclusions on super-hardening. To oversimplify four pages of testimony, the witnesses agreed it was not technically or cost feasible for the initial deployment and the odds are against hardening the 100 Minuteman silos with MX missiles.

Do you agree with their assessment on super-hardening?

Would you recommend going back at some point and super-hardening to Minuteman silos with the MXs in them?

General **Gabriel**. Super-hardening of Minuteman silos for Peacekeeper is dependent upon technologies which require further testing and analysis. In the future as data becomes available from the hardening research recommended by the Commission, there may be some cost effective hardening that would be militarily effective and with more hardening research we should be able to make a recommendation by 1986. This would, of course, be sensitive to the Soviet threat and any deployment decision would have to consider potential Soviet counters such as dramatic accuracy improvements or movement to ultra-large warheads.

STRATEGIC AIR DEFENSE

Senator **Nunn**. The Commission commented on every aspect of the President's strategic modernization program except strategic air defense. I asked Monday's witnesses why it was not mentioned.

Dr. Schlesinger said: "I think that without describing any capability as marginal, that one has degrees of marginality . . . . The underlying point is that as long as the Soviet Union bases its forces primarily in ICBMs—in this century, since we will have no serious ABM defense, if ever, the Soviet Union can destroy whatever targets it wishes in the United States, irrespective of whether or not we beef up our air defenses." General Vessey, do you agree and what is your priority on strategic air defense compared to C^3 improvements, the B–1, the MX, the ATB, the Trident II and the cruise missile?

Is strategic air defense the lowest priority in the overall program?

General **Vessey**. The President's strategic modernization program, including the air defense portion, must be viewed as a package. All elements of the package are necessary to improve overall effectiveness because of the diversity in the Soviet strategic threat. Each element is designed for a specific purpose, but all must interact to create a credible deterrent.

Since the United States, as a matter of policy, has foregone a defense against ballistic missiles, our strategic defensive forces have been structured to provide tactical warning of an ICBM or SLBM attack. The primary purpose of the strategic air defense modernization program in this sector then is to provide a much improved tactical warning capability.

Modernization is also necessary to maintain a credible deterrent force in view of the growing Soviet atmospheric threat. This threat not only includes a near doubling of Soviet bomber force capability by 1990, including the introduction of Blackjack, but also an increase in capability through the introduction of cruise missiles. If the Soviets were to conclude that their bombers could avoid detection and penetrate along our northern approaches, they might target them against U.S. bomber bases and critical C^3 and leadership elements for precursor attack before launching ballistic missile strikes. [Deleted.]

[Deleted] should the Soviets perceive an opportunity for success as their forces improve relative to North American air defenses, such an attack option might become more plausible.

Dr. Schlesinger's statement is true that our air defense capability is today marginal. Improving our tactical warning systems and upgrading our air defense forces is an essential element of the President's strategic modernization program. We must insure that we don't allow a condition to develop in which the Soviets could slip through and disable essential elements of our national C^3 system and cripple our bomber forces. Proceeding with planned modernization efforts will insure that this doesn't happen.

MINUTEMAN IMPROVEMENTS

Senator NUNN. Would a Minuteman III missile with the AIRS guidance and Mark 12A warhead provide comparable hard target kill capability to an MX warhead?

General GABRIEL. [Deleted.]

This is a warhead-to-warhead comparison. The MX missile has much more capability because it carries seven more warheads than the Minuteman III.

Senator NUNN. What would the initial operational capability be for a Minuteman III with AIRS guidance since many already have the MK 12A warhead?

General GABRIEL. June 1988.

Senator NUNN. What amounts for the 5-year timetable to provide this IOC?

General GABRIEL. Repackaging the AIRS guidance for Minuteman III is the determining factor for the 5-year timetable. Assuming an R&D go-ahead in June 1983, the system design review would be in February 1984 and the preliminary design review would be in August 1984. This design phase is required to repackage AIRS to reduce weight, adapt to the Minuteman III flight control system and develop software. Production long-lead release would be in December 1984 with the critical design review in July 1985. Production go-ahead could be in October 1985 with the first production guidance system delivered in June 1987. From June 1986 to June 1988 there would be a series of 12 R&D flight tests. From June 1987 to June 1988, production guidance packages would be integrated with the Minuteman III post-boost system to give an IOC in June 1988.

Senator NUNN. Is the AIRS guidance in production today? (It's being used on MX.)

General GABRIEL. No, the first production AIRS for MX will be produced in January 1986.

Senator NUNN. When and how was the AIRS guidance first tested? (It was tested on the Minuteman.)

General GABRIEL. An engineering model of an AIRS IMU developed and produced by C. S. Draper Laboratory flew on the Minuteman missile July 16, 1976. Although the results were encouraging, it was not a conclusive test. The AIRS was not guiding the missile but was only flying along to provide instrumentation data to evaluate the NS-20 guidance set. Also, a number of hardware improvements were required subsequent to this laboratory-built engineering model AIRS flight. A flight test program for the AIRS on Minuteman would be necessary to prove the accuracy and reliability of the AIRS.

Senator NUNN. Is it possible that the schedule for these improvements could be accelerated based on the fact that many Minuteman IIIs exist today, the

AIRS guidance was first tested on the Minuteman, is being produced for the MX and a certain number of the Minuteman IIIs already have the MK 12A.

General GABRIEL. The AIRS adaptation program drives this improvement schedule. The timetable might be compressed and more concurrency added, but this would add risk to the program.

Senator NUNN. General Gabriel, I have posed a significant number of these same questions to the Minuteman contractors (many of whom are MX contractors) and the Air Force, and there are a number of responses which indicate the IOC of an improved Minuteman would be 2 years earlier—1986 or the same date as the MX. Would you undertake an independent assessment of this discrepancy?

General GABRIEL. The 1988 IOC and timetable were provided by the Ballistic Missile Office. This is our assessment of a timely development schedule with reasonable program risk.

LAUNCH-ON-ATTACK

Senator NUNN. General Vessey, the unclassified portion of the DOD report to Congress cites the "quick reaction time" characteristic of ICBMs and says it strengthens deterrence by "providing an ability to respond before the Soviets can fully complete an attack" and by "providing the potential for launch of a United States retaliatory strike after Soviet submarine-launched nuclear weapons impact on certain targets in the United States, but prior to impact of Soviet ICBM warheads aimed at our ICBM, thereby creating additional uncertainty about the successes of a Soviet strike."

How would you characterize such a posture?

Is this what is commonly termed "launch under attack?"

What is the difference, if any, between "launch under attack" and "launch on warning?" In your view, is an ICBM force of 1,000 hard-target warheads (100 MX) that relies on "launch on attack" for its survivability a "destabilizing" situation?

Have we now shifted longstanding United States policy not to "ride out" the first attack before retaliating?

General VESSEY. The posture outlined in the DOD report is limited in that it does not fully describe the larger context in which survivability should be addressed. The discussion of the Triad contained in the Commission Report represents a more accurate description of the actual situation. The Soviets cannot conduct preemptive attacks on all legs of the Triad simultaneously. Initial attacks on any one leg of the system will provide warning time to direct employment of the remaining legs.

In the event of a ballistic missile attack (ICBM or SLBM), initial warning would be from satellites. Because of the critical nature of any response, we [deleted] to validate our information. Bombers could be launched on the initial warning and recalled if required. A decision to launch ballistic missiles would depend upon highly accurate attack assessment information which could include information on actual detonations of nuclear weapons.

The precautionary dispersal launch of bombers on initial warning could be described as "launch on warning" or "launch under confirmed attack." However, such a precautionary launch does not equate to direction for U.S. forces to strike enemy targets.

Ballistic missiles represent an entirely different problem since their launch is irrevocable. Before any affirmative decision to launch an all out attack could be advised, we would need to evaluate all the information available from our warning systems. This information would include attack origin, attack size, azimuth, and postulated targets under attack. Due to the nature of a coordinated attack on U.S. forces, high value U.S. targets within striking distance of the enemy's SLBM threat are expected to be struck significantly earlier than U.S. ICBM silos. As a result a decision to execute would be based on warning information and could include information on nuclear detonations. Thus, launch of the ICBM force should not be characterized as a "hair-trigger" response.

We do not view MX as destabilizing particularly if 308 SS–18s, some with 8 to 10 warheads each, is not destabilizing. As stated in our testimony, MX capability lies in its accuracy, yield and number of warheads. The MX provides an improved capability to strike hardened targets. Such a capability is critical to deterring an attack. Since our forces have the inherent capability to launch at anytime, the Soviet planner cannot discount the fact that an ICBM silo might be empty when his warheads arrive. This uncertainty makes a significant contribution to deterrence of a first strike by the Soviets.

CONVENTIONAL/STRATEGIC PROGRAMS

Senator **Nunn**. General Meyer, do you have any concern about the squeeze on conventional programs by all the strategic modernization?

Are we funding too many strategic programs all at one time?

Which ones are lower priority in your judgment?

General **Meyer**. As I said earlier in my testimony, I support the present program. Under our present program I believe we have balanced our priorities properly in view of the fiscal constraints. However, if the budget is cut, I would have to readdress the issue since conventional forces would suffer.

Senator **Nunn**. General Barrow, as you look at the strategic modernization program and the added element of the small missile and you look at conventional programs, are you concerned about a possible imbalance or squeeze on conventional programs?

General **Barrow**. The resource commitment to strategic forces over the FYDP period does not exceed 15 percent of the Total DOD budget. I do not believe it unduly restricts needed conventional programs. As long as this policy continues in the future, general purpose forces, including the Marine Corps, should not suffer from an imbalance.

MARINE CORPS GROWTH

Senator **Nunn**. What was the Marine Corps' growth from fiscal year 1983 to fiscal year 1984?

General **Barrow**. While total Marine Corps appropriations increase from fiscal year 1983 to 1984 by approximately $133M or 1.9 percent, real program growth decreases by 1.0 percent over the same period.

Senator **Nunn**. Do we have too many strategic programs being funded at the same time and which are of a lower priority?.

General **Barrow**. While it seems like a large number of initiatives, all the strategic programs are important as they each make important and unique contributions to deterrence. The JCS looked closely at ways to reduce the costs of these strategic programs in order to put more resources into general purpose forces, but we came to the conclusion that we could not. Beyond the first priority of modernizing strategic command, control and communications, I believe that all the other strategic programs should be accorded equal priority.

COMMISSION'S REPORT

Senator **Nunn**. All members of the Joint Chiefs of Staff, I assume that each of you have read the Commission's report.

I would ask each in turn if there is any part of this report with which you disagree?

General **Vessey**. No. As I indicated in my opening statement, and as each of the Chiefs reaffirmed in their testimony, we are unanimous in supporting the essential recommendations of the Commission's report. As I also indicated, the JCS studied strategic force modernization issues and options in depth and, independent of the Commission's work, came to essentially the same conclusions.

I am in complete agreement with the Commission's report and the other members of the JCS are unanimous in their endorsement of the President's Commission Report with respect to land-based missiles.

General **Meyer**. I agree with the report. The Triad must be modernized.

Admiral **Watkins**. I concur with the Commission's report on modernization of the land-based missile force.

General **Gabriel**. I concur. We need the capability of the MX now.

General **Barrow**. I concur with the report.

MPS

Senator **Nunn**. In November 1981, Secretary Weinberger testified before this committee in response to my question on cancellation of the MPS system that "the Soviet inventory is large enough now to take care of the MPS system."

The DOD report just submitted evaluating various basing modes, including MPS, stated that "for the current threat capability, all systems—except the Minuteman silo alternatives—provide outstanding survivability." Without considering the costs, environmental and other disadvantages—General Gabriel—is the threat large enough now to take care of the MPS system?

General **Gabriel**. By mid-1983, the Soviets will have almost [deleted] ICBM warheads. Approximately [deleted] of these will be capable of hard-target kill.

Considering a 2-on-1 Soviet strike on Minuteman (2,000 warheads) and a predicted Soviet attempt to retain [deleted] there would be only [deleted] warheads available to strike MX in MPS. A 4600 shelter MPS deployment would therefore provide [deleted] surviving MX (assuming 90 percent probability of destruction). Were all [deleted] remaining warheads to be used against MPS (i.e., no Soviet reserve), approximately [deleted] of the MX would survive

The President is concerned that the Soviet threat in the late 1980's is projected to include over [deleted] hard-target-kill warheads. This force would be sufficient to destroy a 4,600 shelter MPS system, and still allow the Soviets to maintain a sizeable reserve. For this reason the President sought to investigate new ICBM basing modes which could negate this Soviet ability to fractionate to ever-increasing numbers of ICBM weapons.

WINDOW OF VULNERABILITY

Senator Nunn. When the strategic modernization program was presented in November 1981 and in subsequent testimony, General Bennie Davis, SAC Commander, acknowledged that actual military capability would go down in the near term and, until a survivable MX was deployed, the window of vulnerability would be extended.

To the best of my knowledge going back many years, the Strategic Air Command's dynamic strategic analysis gives very little weight to a MX system that is not survivable in terms of the key measures of military damage expectancy and residual weapons.

General Gabriel, does this proposal to base the MX in existing silos do anything to narrow or close the "window of vulnerability" and what military contribution does such a MX deployment mean in terms of residual weapons and military damage expectancy?

General Gabriel. Peacekeeper in Minuteman silos provides considerable improvement in our capability and deterrent posture. The key to this improvement is having an effective counterforce weapon which the Soviets cannot be sure of destroying in a coordinated strategic attack against the United States. Soviet inability to effectively attack both our bombers and Peacekeeper prior to being launched will have great influence upon a Soviet planner's ability to guarantee the attack's success. The President's Commission addressed this in a very forthright way when they actually walked through a scenario which stated on the one hand if SLBMs were launched to defeat the bomber force, we would have time to employ our ICBMs before theirs could arrive. On the other hand, if they went after our ICBM silos, the bomber force could be launched on schedule, providing a strong deterrent against starting such an exchange in the first place.

These interactive qualities of the Triad argue for deploying Peacekeeper in Minuteman silos as soon as possible. The uncertainty of being able to launch an effective attack, coupled with the much improved capability afforded by Peacekeeper, presents the Soviets with a situation in which they could have little or no confidence of success. This is the basis of deterrence, and in my judgment helps to narrow the "window of vulnerability."

MX/MINUTEMAN SILO COSTS

Senator Nunn. The Commission's report on page 22 indicates the cost of the 100 MXs in Mnuteman silos to be $14.6 billion. The DOD Technical Review report on page 14 says this cost is $16.6 billion. Which is the correct figure?

General Gabriel. Both figures are correct. The $16.6 billion is a total cost figure (1983—complete). The $14.6 billion is the FYDP (fiscal year 1984–fiscal year 1988) portion of the total cost.

COMPARATIVE ASSESSMENTS

Senator Nunn. In the comparative assessment section of the unclassified sections of the DOD report, (ppg. 13–14) it states the costs of deployment of 100 MXs in Minuteman silos as $16.6 billion and an alternative—Improved Minuteman—"which possesses many of the same attributes as Peacekeeper in Minuteman at $9.3 billion—$7.3 billion less.

Could you cite those factors that MX provides that an improved Minuteman force does not, and do these justify the additional costs of $7.3 billion?

It would at least be helpful if we could get from you sort of a couple sheets that show the pros and cons and strengths and weaknesses of that as an alternative (Minuteman III improvements).

I would not want to embark on another study. We have done enough of those, but whatever information you have about possibly taking the number of warheads down and thereby curing that range and payload problem would be helpful.

General GABRIEL. Actually the savings for improving Minuteman rather than deploying Peacekeeper would be more in the neighborhood of $6 billion since around $1 billion of the $16.6 billion has already been spent. Neverthless, there are a number of factors that taken together, in our view, more than justify the extra cost for deploying Peacekeeper.

Peacekeeper provides much more capability than an improved Minuteman would. It has greater flexibility in terms of range, payload, and target coverage. Adding the AIRS guidance system and the MK 12A warhead to Minuteman would limit its range and footprint. Cnsequently, some missiles would have to be downloaded to two warheads to reach targets in the southern part of the Soviet Union. The Peacekeeper program as proposed would result in a net gain of 700 badly needed warheads that have effective hard target capability. Peacekeeper also has greater launch and in-flight survivability than Minuteman.

Peacekeeper and its active production line also have much more value than an improved Minuteman in terms of demonstrating national resolve to counter the threat. It would show the Soviets that we are serious about maintaining a strong deterrent force, and that it is in their interest to pursue meaningful arms reduction negotiations. It would also show our friends and allies that we are willing to share our part of the burden. Improving Minuteman, a missile that has been out of production since the mid 1970s, would not convey the same perception.

Our need to strengthen the ICBM leg of the Triad is urgent, and we can get Peacekeeper up to 2 years earlier than an improved Minuteman. This is because Peacekeeper is ready to fly now. An improved Minuteman, on the other hand, exists only on paper. Contracts would have to be left to adapt the AIRS guidance system to Minuteman III applications. Assuming an R&D go-ahead in June of 1983, we would have integration design completed by July of 1985. Production go-ahead would then be in October of 1985 with the first production guidance system delivered in June of 1987. From June of 1986 to June of 1988 we would conduct a series of 12 R&D flight tests to ensure that the system was reliable enough to deploy and to ensure that accuracy goals were obtained. From June 1987 to June 1988 production guidance packages would be integrated into the Minuteman III post-boost system to give an IOC of June 1988. These are not simple tasks.

An improved Minuteman would not solve our ICBM aging problem: it would only delay facing the issue. By the time improvements were complete, the Minuteman system would be about 20 years old. Peacekeeper not only addresses the age problem but also provides diversity in our ICBM forces, thereby insuring a hedge against catastrophic problems in the Minuteman force should they develop.

Finally, Peacekeeper, with its active production line, provides insurance in the event small missiles, hardening, and other R&D initiatives take longer to provide results than now envisioned. For these reasons, we believe that proceeding with Peacekeeper is the best thing to do.

As for your questions about warhead downloading, an answer was not readily available. One is being prepared, but will take from three weeks to a month to develop. We will provide it when the analytical work has been completed.

BALLISTIC MISSILE DEFENSE

Senator NUNN. General Meyer, the Commission's report stated that "no ABM technologies appear to . . . justify proceeding beyond the state of technology development."

Do you agree with this conclusion?

General MEYER. Yes, as General Vessey stated in his opening remarks the JCS are in unanimous agreement with the Commission's Report.

MX BARGAINING CHIP

Senator NUNN. General Gabriel, the Commission report and the President's statement place great weight on the MX as leverage in arms control.

Do you consider the MX as a bargaining chip—something that the United States is prepared to give up or deploy in reduced quantities if a satisfactory arms control agreement is reached?

What provides this leverage if we are not willing to consider the impact of arms control on the deployment process?

General Gabriel. In May of 1982 the JCS participated in formulation of the United States START proposal. The current proposal essentially calls for deep reductions to 850 ballistic missiles; a maximum of 5,000 ballistic missile warheads; and, a sub-limit of a maximum of 2,500 ICBM warheads. This proposal assumes completion of the President's strategic modernization of October 1981. A fully modernized force is crucial to the security of the United States—particularly under reduced force levels such as START proposes. MX is not a "bargaining chip". It motivates the Soviets to come to the bargaining table and "ante up" for serious arms control negotiations. MX is not to be traded away. The JCS do not believe, in view of the fact that the Soviets have already substantially modernized their strategic ballistic missile force, that a proposal to trade the United States-planned MX for Soviet deployed SS-18s is in the United States interest or constitutes a credible and compelling argument to the Soviets. The two forces now enter arms control negotiations at different modernization starting points. We would be ill-advised, for example, to enter an agreement with the Soviets which would leave them with a modernized capability, e.g., SS-19 Mod 3, while we remain totally reliant upon Minuteman technology over a decade old.

The deep reductions in nuclear weapons levels contained in the U.S. START proposal clearly indicate willingness to consider the impact of arms control on the deployment process. The JCS believe that strategic force modernization is essential and constitutes the most effective leverage toward negotiation of an equitable and verifiable arms reduction agreement.

Question Submitted by Senator J. James Exon

BEST ALTERNATIVE STRATEGIC FORCE

Senator Exon. This question is posed to each of the five members of the Joint Chiefs of Staff and a response from each of them is requested:

Given the assumption that the deployment of MX missiles in existing silos is not approved and that the MX would no longer be an option for strategic modernization, what would comprise the best alternative strategic force which could be composed? (This question assumes that the remainder of the President's strategic modernization program is approved as well as the remainder of the President's Commission on Strategic Forces recommendations are approved (including procurement and R&D initiatives)).

Answer. We agree that strategic force modernization covers the combination of land-based ICBMs, sea-based ballistic missiles, and intercontinental bombers with air-launched cruise missiles, which provide a broad range of necessary, complementary and mutually supporting capabilities. We further agree that there would be a weakness in the land-based ICBM portion of the Triad if Peacekeeper was not deployed. The Peacekeeper missile is required to redress ICBM aging problems and with its active production line, provide a hedge against catastrophic problems in our current ICBM force. It will offset a serious deficiency in prompt countermilitary capability, provide a strong incentive for the Soviets to negotiate for arms control reductions and demonstrate to our allies that we are willing to modernize our nuclear deterrent. Failing to modernize the ICBM force by introducing the Peacekeeper will so seriously compromise our strategic posture that I am unable to offer any single appropriate alternative that would maintain the long-term viability of the strategic TRIAD, as endorsed by the President's Commission on Strategic Forces. Any future modernization and arms control alternatives would require a reevaluation of our entire strategic force posture and thorough interagency review due to significant arms control and foreign policy implications.

Questions Submitted by Senator Carl Levin

WOULD UNITED STATES SWAP TRIAD WITH USSR?

Senator Levin. Would each of you swap our overall strategic nuclear Triad of forces for that of the Soviets? Please provide individual responses?

Answer. The Soviets have a modern hard-target kill capability in their SS-18 and SS-19 ICBMs. We currently have an aging ICBM force with limited hard-target kill capability. However, none of us would trade our overall strategic nuclear forces with the Soviets.

At this time, our strategic forces posses certain qualitative and quantitative advantages over those of the Soviets. For the present our Triad is better suited to our strategy of deterrence and is a credible deterrent against Soviet aggression. But as our systems continue to age, and as the Soviets offensive and defensive systems continue to improve. our deterrent credibility fades. So, without strategic force modernization, in the face of the USSR's continued modernization of its strategic forces, the changing balance of United States/USSR strategic capabilities could make a swap look attractive.

ASSESS LEGS OF TRIAD

Senator LEVIN. Please provide an overall assessment and comparison of the reliability of each of the legs of our strategic nuclear Triad with its counterpart forces of the Soviet Union. Address both weapons and platforms, please. Overall, would you say our Triad's reliability is higher or lower than that of the USSR?

ANSWER. An assessment and comparison of United States and Soviet strategic nuclear Triads involves significantly more than the weapons systems reliability of the counterpart forces. An evaluation of relative strategic force capabilities must be viewed from their ability to successfully execute national strategy. Command, Control and Communications, weapons load, yield, accuracy, prelaunch survivability, probability of arrival to include penetration capability must all be interwoven with National policies to assess properly such a comparison.

As the attached chart indicates the reliability (WSR) of the weapons systems are relatively close. An assessment of the system as a whole must consider the other factors as well. For example, today the Soviet SS-18, Mod 4 delivers ten [deleted] megaton warheads to an accuracy (circular error probable-CEP) of [deleted] feet with an intelligence assessed reliability of [deleted]. By comparison, today's Minuteman III, with a Mark-12A warhead, delivers three [deleted] megaton warheads to a CEP of [deleted] feet with experienced reliability of [deleted] using the Mark-12A warhead. With the Mark-12 warhead [deleted] reliability is [deleted].

WEAPONS SYSTEMS RELIABILITY (WSR) 1/

ICBM				SLBM				BOMBER			
US		SOVIET		US		SOVIET		US		SOVIET	
SYSTEM	WSR	SYSTEM	WSR	SYSTEM	WSR	SYSTEM	WSR	SYSTEM	WSR	SYSTEM	WSR
TITAN II		SS-11		C-3	DELETED	SS-N-5		B-52D (BOMB)		BEAR B/C	
MM II	DELETED	SS-13	DELETED	C-4		SS-N-6		B-52G (BOMB)	DELETED	BEAR F	
MM III		SS-17				SS-N-8	DELETED	B-52G (SRAM)		BISON	DELETED
MM III (MK-12A)		SS-18				SS-N-17		B-52G (ALCM)		BACKFIRE	
		SS-19				SS-N-18		B-52H (BOMB)		BLACKJACK	
						SS-NX-20		B-52H (SRAM)			
								FB-111 (BOMB)			
								(SRAM)			

1/ Weapon system reliability for ICBMs and SLBMs is defined as the probability that a

DELETED

IS TRIAD CREDIBLE NOW?

Senator **Levin**. Does each of you think we have a credible strategic nuclear deterrent Triad now?

Answer. We believe that the combination of land-based ICBMs, sea-based ballistic missiles, and bombers with cruise missiles provides a balanced, broad range of capabilities whose synergism severely complicates Soviet planning and gives us resiliency and a reasonable degree of flexibility , however, our systems are old relative to those of the Soviets and we are seriously lacking in our capability against hardened targets. Recent improvements in Soviet ICBM capability and hardness threaten the effectiveness of our ICBM force. The situation has deteriorated to the point that the Soviets now have nearly a four-to-one advantage in prompt, countermilitary capability. These factors necessitate the modernization program upon which we have embarked.

The sea-based missile and the bomber force have forward-looking modernization programs. The land-based missile portion of the Triad is presently reliable, but it is badly in need of modernization. The Peacekeeper missile is the answer. This missile substantially increases our military capability, contributes positively to political percenptions by our allies, and, most importantly, sends a strong signal of United States resolve to the Soviets.

MEASURES OF MILITARY CAPABILITY

Senator **Levin**. General Vessey, how many measures of military capability are there for the purposes of comparing ourselves to the USSR?

In how many measures of military power do we have an advantage over the USSR?

In how many measures do they have an advantage over us?

In how many does neither nation have an advantage over the other?

Answer. The assessment of military power is a complex process, involving quantitative analyses as well as qualitative judgments concerning such intangible and unquantifiable factors as leadership, training, and morale. Static measurements provide useful comparisons of capabilities, but cannot reflect the interaction of forces in war. Whenever possible, static force comparisons should be complemented by dynamic analyses that attempt to incorporate some of the complexities and variables of actual combat. The measures of military power should include resources (military investment, operating costs, and available manpower), forces in being (active and reserve force structure and readiness), weapons and equipment (modernization), logistics (sustainability), technology, and leadership. To each of these measures we must apply both quantitative and qualitative measures to evaluate the strengths and weaknesses of United States and allied forces in three major categories—strategic nuclear, nonstrategic nuclear, and conventional.

Since 1971, the USSR has outspent the United States in virtually every category of military investment and operating costs. For example, its expenditures for strategic offensive forces were nearly double those of the United States, and the Soviets spent 50 percent more than the United States for general purpose forces. This Soviet commitment to improving the full spectrum of its military capabilities, combined with United States and allied failure to keep pace, has helped to negate many qualitative advantages previously held by the West. In terms of manpower, while the total population of all NATO countries exceeds the Warsaw Pact countries, WP forces in being (active and reserves) exceed NATO forces.

For more than two decades the Soviet Union has pursued the steady expansion and modernization of its military forces. In addition, the Soviets have strengthened other Warsaw Pact forces and equipped Soviet clients and surrogates outside Europe as well. The failure of the United States and its allies to keep pace has resulted in a growing imbalance in strategic and general purpose force capabilities. This modernization has applied to weapons, equipment and logistic capabilities.

Although the United States continues to lead the Soviets in most basic technologies, such as the militarily critical area of electronics, this lead is now not nearly so apparent with the modern, highly capable weapon systems fielded by the Soviet Union in recent years. The number and quality of new ground, naval and aerospace weapon systems developed by the Soviets are impressive by any standard.

In the area of leadership, qualitative factors such as battlefield military judgment, timely decisionmaking, training, doctrine and morale are significant for assessment. While balance assessments and comparisons of resources and costs are important to the equation, there is a fundamental recognition that superior resources have not always determined success on the battlefield. The impact of command and control, different organizational concepts and doctrine and decisionmaking on both sides must be included. On the one hand the Warsaw Pact's concern with control and secrecy degrades efficiency, inhibits lower unit initiative and leads to internal distrust. On the other hand the authoritarian system allows Pact nations to carry out military programs quickly and effectively. The United States and our allies appear to hold a slight advantage of leadership over Soviet and other Warsaw Pact military forces.

CATEGORIES OF MILITARY HARDWARE

Senator LEVIN. How many categories of military hardware are there?

In how many categories of military hardware do we have an advantage over the USSR?

In how many categories do they have an advantage over us?

In how many categories does neither nation have an advantage over the other?

ANSWER. There are five categories of weapon systems: strategic nuclear, nonstrategic nuclear, conventional, chemical and biological. Strategic weapons are defined as those nuclear weapons having an intercontinental capability (5,500 km). United States strategic offensive forces consist of a Triad of land-based intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs) and intercontinental manned bombers. Since 1974, Soviet Union ICBM production has outstripped the United States by a ratio of 6:1. Soviet SLBM production exceeds that of the United States by 16:1, although the inventory of United States SLBM reentry vehicles is nearly triple that of the Soviet Union. Soviet interest in the manned bomber is evidenced by the number of ongoing programs to upgrade their force. Production rates of the Backfire strategic bombers continue at approximately 30 each year with the new Blackjack now undergoing flight tests. At the same time, the United States has produced no strategic bombers, except for the planned B–1B, which has an initial operating capability scheduled for 1986.

Nonstrategic nuclear force (NSNF) weapons are those nuclear weapons with less than an intercontinental capability. NSNF weapons consist of missiles, rockets, artillery, and nuclear-capable aircraft with less than an intercontinental capability. The Soviets hold a decided advantage in the longer-range intermediate-range nuclear forces (LRINF) missile category having recently deployed 351 mobile SS–20 missiles in addition to older SS–4 and SS–5 missiles. The United States does not now have a comparable missile. The scheduled deployment of 464 ground launched cruise missiles and 108 Pershing II missiles to western Europe will improve NATO LRINF capabilities. The numerical balance, however, will continue to favor the Soviet Union.

Conventional weapons are those non-nuclear weapons excluding biological and chemical weapons. While the categories of conventional weapons are too numerous to list here, the following systems are considered to be the major categories of conventional weapons: tanks, artillery tubes, antitank weapons, principal surface combatants, attack submarines, aircraft surface-to-air missiles (SAMs), and helicopters. Generally speaking, the Soviets hold wide production advantages. For example, from 1974 to 1982, the Soviet tank production rate was approximately 3:1 over the United States; artillery and rocket launcher production, 14:1; attack submarines, 2:1; tactical combat aircraft, 2:1; and SAMs, 8:1. United States and Soviet production of principal surface combatants over the same period was roughly equal.

In the area of chemical warfare, Soviet forces are the world's best equipped and are capable of both offensive and defensive operations in toxic environments. There are strong indications that the Soviets have a biological warfare capability. Soviet use of toxins in Afghanistan and Southeast Asia has been confirmed. The United States does not have a biological or toxin warfare capability, does not intend to develop one, and has stated that we have no plans to use such a warfare capability.

The assessment of military capability and the determination of relative advantage in specific systems must be tempered by qualitative as well as quantitative analysis and due consideration of the synergism in the entire spectrum of military power and national will. While the USSR has outspent and out produced the United States as described above, there are a number of measures which are to the United States advantage: [Deleted.]

STRATEGIC FORCE IMPROVEMENTS

Senator LEVIN. General Vessey, is it not true that during the 1970s, the United States made the following modernization improvements to its strategic nuclear forces:

U.S. STRATEGIC FORCE IMPROVEMENTS SINCE 1970

1. Deployment of 550 new, multiple warhead Minuteman III ICBMs (1970–1975).
2. Deployment of 496 new, multiple warhead Poseidon SLBMs on 31 submarines (1970–1977).
3. Deployment of 216 new, multiple warhead Trident I SLBMs on 13 submarines (1979–1982).
4. Deployment of 1,140 new, nuclear short-range attack missiles aboard B–52 bombers and FB–111 bombers (1972–1975).
5. Accelerate full scale engineering development of MX missile (1979).
6. Completed R&D and initiated production of air-launched Cruise missiles; 276 operational on one B–52 squadron (late 1970s–1982).
7. Double yield/destructive power of Minuteman III warhead by beginning deployment of 900 new Mark–12A re-entry vehicles to replace existing, less capable RV's (late 1970s–1983).
8. Upgraded guidance systems of Minuteman III ICBMs with new NS–20 inertial system to improve accuracy (late 1970s).
9. Upgraded silo hardness of Minuteman ICBM silos to reduce vulnerability to nuclear bursts and installed titanium shrouds on missile nose cones to reduce vulnerability to electromagnetic pulse from nuclear explosions (mid–1970s).
10. Began construction of 10 new, more capable quiet strategic Trident missile submarines; one now operational, one on sea trials (1973–1982).
11. Replaced and modernized B–52 bombers' weapons, engines, airframes, navigation systems, avionics and electronic countermeasures (continuous, 1954–present).
12. Deployed 62 FB–111 bombers (1971–1976).
13. Installed command data buffer system installed for rapid retargetting of Minuteman ICBMs (1975–1979).

ANSWER. The U.S. strategic force improvements listed are accurate and complete; however, each of these improvements was taken to preserve the capability of our strategic forces to enhance deterrence and effectively strike the appropriate target structure should deterrence fail. I have attached a list of the improvements made to Soviet offensive and defensive forces during this same time frame. I will analyze your list in light of the Soviet improvements.

(a) Soviet ICBM deployment began in the early 1960's and reached a peak of 1,600 launchers in 1972. During this same time frame, other aspects of the target base such as bomber bases, submarine facilities, war supporting industry, and conventional force facilities also increased in numbers. With a fixed number of launchers (1,054 ICBMs and 44 SSBNs), the U.S. employed the advanced technology of MIRV systems to increase the number of warheads available to strike the expanded target base. This action was significantly less expensive than building additional silos or SSBN's equipped with single RV missiles. (Items 1, 2, and 3 on the Senate list.)

(b) During the 1970s, the Soviet Union significantly expanded their strategic defensive capabilities employing radars, aircrafts, and surface-to-air missiles (SAM). At the present time, the air defense environment of the USSR includes over 7,000 radars, 600 interceptor aircraft, and 9,000 SAM launchers. In order to penetrate this sophisticated air defense environment and strike the defended targets, U.S. aircraft were equipped with short-range attack missiles (SRAM) and air launched cruise missiles (ALCM). (Items 4 and 6 on the Senate list.)

(c) As the Soviet Union expanded their forces, they employed hardening techniques to protect vital elements of leadership, ICBM forces, and SSBN facilities. This hardening reduced the effectiveness of U.S. weapons that were relatively inaccurate and/or used weapons of low yield. To increase the effectiveness of U.S. weapon systems against these hard targets, the accuracy and yield of Minuteman III was enhanced by employing technology that was not available when the weapon system was militarily deployed. (Items 7 and 8 on the Senate list.)

(d) As the Soviet Union deployed their third and fourth generation ICBMs in the 1970s, they employed a high throw-weight with greatly improved accuracy and high-yield MIRVs. This combination of technologies gives them the capability to attack successfully most of the 1,000 U.S. Minuteman ICBM silos. In order to counter partially this capability, stronger silo closures and an improved suspension system were incorporated into the Minuteman silos in the mid-1970s. The continued improvements in accuracy of Soviet ICBMs have reduced the effectiveness of these improvements. (Item 9 on the Senate list.)

(e) Across the spectrum of strategic offensive and defensive forces, the Soviet Union has repeatedly developed and placed in operational use systems that incorporate advanced technology. The strategic systems employed today by the United States represent the basic technology available in the 1950s and 1960s. The improvements that have been incorporated into these systems since 1970 represent a "band-aid" approach to hancing the capabilities of these systems. In the case of the B–52, many of the modifications were necessary solely to keep the basic airframe in service or adapt it to a mission that was not a part of its original design (e.g., change from high level to low level bombing). Considering the age of U.S. strategic systems, a comprehensive modernization program is required to preserve deterrence through the effectiveness of the strategic forces. (Items 5, 10, 11, and 12 on the Senate list.)

(f) In the early 1970s, President Nixon expressed the desire to have options other than a single massive response to a Soviet attack. Since that time, U.S. policy and weapons acquisition have stressed flexibility in employment of strategic systems. The command data buffer retargeting capability incorporated in 550 Minuteman III ICBMs was a hardware modification that supports the concept of flexible employment. (Item 13 on the Senate list.)

STRATEGIC NUCLEAR ARSENALS

Senator LEVIN. Do you have any disagreements with the attached chart from the Library of Congress showing growth of strategic nuclear warheads and bombs in the arsenals of the United States and the Soviet Union between 1970 and 1981? Please provide your numbers in those categories in which you disagree.

ANSWER. The numbers from the Library of Congress are essentially correct as far as they go. Classified sources reveal that from 1970 to 1980 the United States [deleted] warheads as compared to [deleted] for the Soviets. The interesting period of time is 1980 to 1983. During that period the USSR deployed [deleted]—almost four times the United States rate.

To better highlight the above, unclassified figures have been added to the attached chart from the Library of Congress for 1982, 1983, and the net change from 1970–1983.

It should be noted that this numerical comparison does not reflect the relative capability of the forces deployed. The Soviet buildup of highly accurate and superhardened ICBM systems in the past few years gives them a tremendous advantage in prompt countermilitary capability that is not apparent from these raw numbers.

	1970	1971	1973	1975	1977	1979	1981	NET CHANGE 1970-81	1982	1983	NET CHANGE1/ 1970-1983
LAUNCHERS											
United States											
ICBM	1054	1054	1054	1054	1054	1054	1052	-2	1049	1043	-11
SLBM	656	656	656	656	656	656	512	-144	520	544	-112
Bombers	469	501	463	396	376	376	376	-93	328	297	-172
TOTAL	2179	2211	2173	2106	2086	2086	1940	-239	1897	1884	-295
Soviet Union											
ICBM	1427	1489	1547	1607	1477	1398	1398	-29	1398	1398	-29
SLBM	289	401	589	741	970	989	1017	+728	989	+950	+661
Bombers	145	145	145	155	175	207	235	+90	245	275	+130
TOTAL	1861	2035	2281	2503	2622	2594	2650	+789	2632	+2623	+762
US Standing	+318	+176	-108	-397	-536	-508	-710	-1028	-735	-739	-1057
WEAPONS											
Ballistic Missiles											
United States											
ICBM	1074	1274	1754	2154	2154	2154	2152	+1078	2149	2143	+1069
SLBM	800	1664	3824	4688	5120	5120	4976	+4176	4768	4960	+4160
TOTAL	1874	2938	5578	6842	7274	7274	7128	5254	6917	7103	+5229
Soviet Union											
ICBM	1427	1489	1547	1937	2407	4186	5302	+3875	5800	6000	+4573
SLBM	289	401	589	741	1130	1309	1433	+1144	1417	1550	+1261
TOTAL	1716	1890	2136	2678	3537	5495	6735	+5019	7217	7550	+5834
US Standing	+158	+1048	+3442	+4164	+3737	+1779	+393	+235	-300	-447	-605
Bombs/ASMs											
United States	1868	1872	2130	2602	2534	2534	2534	+666	2276	2800	+932
Soviet Union	145	145	145	165	205	269	325	+180	345	405	+206
US Standing	+1723	+1727	+1985	+2437	+2329	+2265	+2209	+486	+1931	+2395	+672
Grand Total											
United States	3742	4820	7708	9444	9808	9808	9662	+5920	9193	9903	+6161
Soviet Union	1861	2035	2281	2843	3742	5764	7060	+5199	7562	7955	+6094
US Standing	+1881	+2775	+5427	+6601	+6066	+4044	+2602	+721	+1631	+1948	+67

1/ 1983 Soviet data excerpted from Soviet Military Power (1983), US Data from FY 84 OJCS Military Posture Statement

UNITED STATES-USSR WEAPONS

Senator **Levin**. General Vessey, you said that between 1972 and 1982, the USSR added 6,000 strategic nuclear warheads to its arsenal, while the United States added only 3,600. Please provide a detailed breakdown, by year, numbers of weapons and their types, distinguishing among ICBM, SLBM, and bomber-delivered weapons, for both nations.

Answer. The unclassified detailed breakdown attached augments the chart provided for the previous questions.

UNCLASSIFIED

US WEAPONS	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	INC
ICBM	1468	1754	1894	2154	2154	2154	2154	2154	2154	2152	2149	+ 681
SLBM	2384	3824	4400	4688	4920	5120	5120	5120	4976	4976	4768	+2384
BOMBER	1998	2130	2396	2602	2542	2534	2534	2534	2534	2534	2276	+ 278
TOTAL	5850	7700	8690	9444	9616	9808	9808	9808	9664	9662	9193	+3343
USSR WEAPONS												
ICBM	1527	1547	1857	1937	2110	2407	3378	4186	4552	5302	5800	+4273
SLBM	497	589	643	741	921	1130	1174	1309	1217	1433	1417	+ 920
BOMBER	145	145	145	145	155	165	210	269	294	325	345	+ 200
TOTAL	2169	2281	2645	2823	3186	3702	4762	5764	6063	7060	7562	+5393

MILITARY VALUE OF PREVENTING SOVIET ICBM DEPLOYMENT

Senator **Levin**. General Gabriel, is there any military value for the United States in preventing development of any new Soviet ICBMs? Do we care, militarily, whether the Soviets do or do not develop any new ICBMs?

Answer. We obviously care whether the Soviets develop any additional ICBMs, either new ones or more of their existing models. We are on record as strongly supporting an end to the arms race through an arms reduction agreement that ensures equality and is verifiable. A significant military concerns is the imbalance between the ICBM forces—the forces most capable of quick strikes against an enemy's homeland. The growth in deliverable Soviet warheads and accuracy improvements have put our own hard target capable weapons at risk. Both the numbers and the capabilities of United States weapons surviving a Soviet first strike with improved strategic systems are vital to our retaliatory posture and thus a critical element of national survival.

HARD TARGET KILL WEAPONS SYSTEMS

Senator **Levin**. General Gabriel, are survivable, hard target kill strategic weapons systems stabilizing, especially in a crisis?

Is the converse true—are non-surviving hard target kill strategic weapons systems destablizing, especially in a crisis?

Answer. The answer to both of these questions depends on a number of variables and thus cannot be reduced to a simple yes or no. Generally speaking, a survivable, hard target capable weapon is stabilizing in that it provides a high confidence of retaliation against high value enemy targets. If the Soviets perceive that their strategic forces and command/control capability are at risk, they will be deterred from initiating a nuclear exchange that would ultimately destroy them. However, possessing such systems does not guarantee stability. For example, technological breakthrough in Soviet ballistic missile defense could render such survivable systems largely ineffective.

Conversely, less survivable, hard target capable weapons may give the impression of being destablizing, but may in fact not be. For example, Soviet SS–18s and SS–19s are relatively protected through silo hardening from United States ICBMs today. As such, the Soviets are in a position where coercion of United States allies or adventurism in the Third World may be an attractive and viable option. In this case, deployment of a modernized United States ICBM capable of putting the SS–18s and SS–19s at greater risk could curb this tendency toward unchecked Soviet aggression and actually increase stability in the international arena.

While survivable basing enhances stability, the need for the Peacekeeper missile transcends basing mode considerations. Basing Peacekeeper in Minuteman silos, initiating vigorous research and development for long-term survivability and pursuing significant and equitable arms reductions offer the best means of providing for our continued national security.

SURVIVING HARD TARGET KILL WEAPONS

Senator LEVIN. General Vessey, do you agree with the attached chart depicting surviving hard target kill weapons (prompt and overall) which the United States has now and would have in 1989 and 1992, assuming a first strike by the Soviets against our Triad and assuming further improvements to the Minuteman III NS–20 guidance system, and with and without MX deployment? In those categories with which you disagree, please provide your numbers.

ANSWER. The primary contribution of silo-based Peacekeeper is to deterrence. A key element of such deterrence is derived, however, from the ability to achieve its military purpose should deterrence fail. Peacekeeper accuracy and warhead yield produce a capability to destroy hard targets that approaches that of the Soviet SS–18 and SS–19 missile generation. Our studies indicate that if the Soviets initiated a strategic nuclear attack and the United States chose to totally ride it out before retaliating, the Soviets would accrue an advantage [deleted]. The results would be essentially the same if 100 Peacekeeper were deployed in place of Minuteman in their silos and underwent a total ride-out. These same studies indicate that at least [deleted] of the remaining Soviet force after a nuclear exchange could consist of accurate, high yield, and super-hard ICBMs. Unlike the Minuteman, the Peacekeeper would hold many of those missiles at risk as well as some other very hard targets that the Soviets hold dear—leadership facilities; command, control and communications systems and intelligent collection links.

Although the United States does not rely on a policy that assumes or requires launch under attack (LUA), the availability of the LUA option with a weapon like the Peacekeeper leaves the Soviets uncertain about how we might respond to an attack. Such uncertainty breeds avoidance of risk—especially in the Soviet mind. Avoidance of risk on their part means effective deterrence for the United States. While problems will always persist with ride-out-the-attack survivability in virtually any basing mode, silo-based Peacekeeper would offer the near-term advantages of quick reaction, hard target capability, flexible targeting, maintainability, security, and economy.

A chart such as the attached appears to grapple with some of the points noted above. There are a number of basic inherent assumptions necessary to arrive at a surviving weapons calculation. Since these assumptions are not readily apparent, it is impossible to make a fair appraisal of the attached information.

Hard targets (those which have been especially built or protected to resist the effects of nuclear weapons) can vary tremendously in degrees of hardness. There are those generally categorized as superhard [deleted] or greater) such as [deleted] there are also targets slightly "softer" such as a great number of [deleted]. The lower end of the hard target spectrum [deleted] includes some additional targets of the types above as well as those [deleted] etc. Hard target kill (HTK) capable weapons, then, can vary depending on the degree of hardness of the specific target sets to be attacked by the specific category of weapon. The effectiveness of the weapon is primarily a function of yield and accuracy, so the definition of hard target capable weapons and any depiction of surviving HTK weapons will vary accordingly. Prompt HTK capability is a function of the above and the length of time from notification for launch to weapon arrival at the target. Although the bomber leg of the Triad provides a tremendous HTK capability and has the greatest flexibility of the three legs, the flight time involved does not permit time urgent response.

Calculations of surviving weapons require the information above for categorization of weapons and a number of additional planning factors or assumption. The number of surviving bomber weapons will vary greatly depending on whether the initial Soviet attack postulated is a "bolt out of the blue" or occurs as an escalation of a crisis for which United States forces have been brought to alert. This factor alone may allow the number of surviving bomber weapons today to vary by [deleted] weapons or more (future year calculation will also vary by postulated force structures and alert rates). Survival rates of SLBMs are also greatly affected by the alert condition in effect at attack initiation and such variables as overhaul cycles, etc. ICBM survivability is not affected by alert conditions since the ICBM force is constantly at an extremely high alert rate (98 percent plus). It is, however, greatly affected by the type of attack postulated (type and number of weapons, timing of the attack, duration of attack, and postulated Soviet tactics). (Future year weapon survivability is affected by both postulated United States improvements and modifications and like changes in the Soviet force structure.)

A significant question which the Soviet planner must consider is how to simultaneously destroy the entire Triad's retaliatory capability. Because of the synergistic capability of the United States strategic nuclear Triad, any Soviet effort to maximize damage to one leg tends to detract from the ability to neutralize the others. Thus, the Soviet planner cannot be sure what portions of the Triad would be in place when his weapons reach their planned targets. This resulting uncertainty must also be accounted for in postulating the Soviet attack and the United States response. The value of each weapon and the number of surviving United States weapons are thus very sensitive to these uncertainties and should not be measured solely in terms of a worst case scenario but also in terms of the impact they have on deterrence.

	TODAY	89 (ALCMS)	92 (TRIDENT II)
SURVIVING HARD TARGET KILL WEAPONS			
W/O MX	45-90 MM III 500 bombs 0 SLBMs 600	45-90 MM III 1300 bombs & ALCMs 200 TRIDENT II 1600	45-90 MMIII 1300 bombs 600 TRIDENT II 2000
W/O MX	Same (no MX)	1600 + 50-100 MX 1700	2000 + 50-100 2100
SURVIVING PROMPT HARD TARGET KILL WEAPONS			
W/O MX	45-90 MM III	200 TRIDENT II 45-90 MM III 300	45-90 MMIII 600 TRIDENT II 700
W/MX	Same (no MX)	300 + 50-100 MX 400	700+ 50-100 MX 800

Use about for all. In each case MX only adds only 50-100 surviving RVs __ ___-small percent of surviving forces.

Assuming a first strike on our TRIAD, and assuming further improvements to NS 20 Guidance system on MM IIIs.

Senator Tower. The committee will now recess.

[Whereupon, at 12:15 p.m., the committee proceeded to other business.]

MX MISSILE BASING SYSTEM AND RELATED ISSUES

FRIDAY, APRIL 22, 1983

U.S. SENATE,
SUBCOMMITTEE ON STRATEGIC AND
THEATER NUCLEAR FORCES,
COMMITTEE ON ARMED SERVICES,
Washington, D.C.

The subcommittee met, pursuant to notice, at 8:40 a.m. in room SD-562, Dirksen Senate Office Building, Hon. John W. Warner (chairman) presiding.

Present: Senators Warner, Cohen, Nunn, Exon, Levin, and Bingaman.

Staff present: Frank J. Gaffney, professional staff member; Paul S. Besozzi, minority counsel; George K. Johnson, Jr., and Patrick L. Renehan, professional staff members; Jacquie S. O'Grady, staff assistant; Suzanne Bantz, receptionist.

Also present: John Campbell, assistant to Senator Warner; Jim Dykstra, assistant to Senator Cohen; Jon Etherton, assistant to Senator Jepsen; Hank Steenstra, assistant to Senator Quayle; Ed McGaffigan, assistant to Senator Bingaman; Joseph Kruzel, assistant to Senator Kennedy; Arnold Punaro, assistant to Senator Nunn; Frank Sullivan, assistant to Senator Stennis; Greg Pallas, assistant to Senator Exon; Peter D. Lennon, assistant to Senator Levin; Matthew Murray, assistant to Senator Kennedy; Mary Shields, assistant to Senator Stennis; Carl Weatherly, assistant to Senator Warner; and Bob Savitt, assistant to Senator Cohen.

OPENING STATEMENT BY SENATOR JOHN WARNER, CHAIRMAN

Senator WARNER. Good morning.

The Subcommittee on Strategic and Theater Nuclear Forces this morning will continue its hearings on the strategic forces modernization program advocated by the Scowcroft Commission and endorsed by President Reagan.

The Committee on Armed Services as a whole has already heard lengthy presentations concerning this program by members of the President's Commission on Strategic Forces. Subsequent to the President's announcement on Tuesday, the full committee took testimony from the Secretary of State, the Secretary of Defense, and the Joint Chiefs of Staff regarding the administration's plan for the MX and related initiatives. In addition, the full committee took testimony from General Scowcroft and other members of the Commission.

With the broad overview thus established, Chairman Tower has directed the subcommittee to conduct a series of hearings aimed at further developments in terms of a balanced public record on these highly important matters. Toward this end, we are starting our deliberations today by affording an opportunity to prominent nongovernmental persons who represent organizations which have, in the main, been critical of the proposed MX basing plan.

We lead off today with Dr. Stone.

STATEMENT OF DR. JEREMY J. STONE, DIRECTOR, FEDERATION OF AMERICAN SCIENTISTS

Dr. STONE. Thank you, Mr. Chairman, very much. It's nice to see you again since our meeting in London on proliferation on a different problem.

I want to put my statement in the record if I may, Mr. Chairman, at the conclusion of my remarks.

Senator WARNER. That will be done.

Dr. STONE. Followed, if I may, by the statement I gave to the Scowcroft Commission earlier this year, and by an editorial supporting the proposal I made to them at that time, if that is permissible.

Mr. Chairman, the Scowcroft Commission seems to us to have reached a basically political decision, rather than a military, strategic, or arms-control decision, and I think that has been fully discussed in the committee discussion so far earlier this week.

I want to pass on to some other aspects of the problem that I don't think have been fully exposed. I think it is a settled matter that no ICBM deployment or MX deployment or Midgetman deployment is going to be survivable without arms control. I think that is the conclusion of the Commission and of the hearings you have had so far.

President Carter told the entire Senate and House in 1980 that this was true, that there would be no way to deploy ICBM's beyond jeopardy unless there were SALT II limits, and the Commission has basically agreed with that.

I think the Commission, however, has made a simple and elemental error, and I think they should be recalled to discuss this error.

In their closing the window of vulnerability I think they made a mistake of the following kind. They said that the window of vulnerability was closed, Mr. Chairman, because the Soviet Union could not attack our sub-launched missiles and our ICBM's simultaneously. I want to go over that argument and explain why I think the Commission has made an error in asserting this argument with regard to the MX deployment.

WINDOW OF VULNERABILITY

The conclusion I'm going to reach is that the window of vulnerability is closed now in the Commission's terms. But as far as the MX is concerned the window of vulnerability is opening, not closing, and unless the arms-control proposals that I am putting forward are accepted or something like them, I believe you will find an even greater window of vulnerability in the nineties than there is now. And it is in the nineties that this MX is supposed to be surviving and being useful.

So I would just like to, if I may, turn to this graph for a moment. Perhaps, Senator Warner, you have gone over this before, but as you know, the reason the Commission closed the window of vulnerability was that the submarine-launched missiles, which can now attack the bomber bases with 5- or 10-minutes warning, are not able simultaneously to attack the ICBM's with that same 5- or 10-minute warning. And the reason they cannot is because they do not have the hard target kill capability now that they need to attack the ICBM's.

It is for that reason that the Soviet Union would have to launch ICBM's against our ICBM's, and that launch would give us 25 minutes additional warning and permit the bombers to be flushed from their bases. This is the reason why the Commission concluded that there was not a window of vulnerability now. This was their fundamental reason which they gave on page 17 of their report.

Now, my point——

Senator **Warner**. You agree with that premise?

Dr. **Stone**. I agree with that premise today, but I consider that the Commission made a simple and elemental error in applying this conclusion to the MX missile, because the MX is not here today. It cannot be deployed today and it cannot be used today.

It will be deployed in the 1986--88 period, and it will be used, one hopes, for a decade or two beyond that period. And my point, Mr. Chairman, is this. This window of vulnerability will not be closed during the period we want the MX to be used. On the contrary, the window of vulnerability will be opening during this period and opening with a vengeance, because it is during this period that the Soviets will be getting sea-based counterforce capability.

We ourselves are getting a sea-based counterforce in 1989–91 when we deploy the Trident II. We find, in practical experience, that the Soviets are no more than a few years behind in important matters. So I believe that between 5 to 10 years from the time the MX is fully deployed the Soviets will open this window of vulnerability by being able with sea-based forces to attack simultaneously the land-based missiles and the bombers at the same time.

MIDGETMAN MISSILE

Now, the Commission has asserted that the answer to that lies perhaps somewhere in the deployment of Midgetman. In fact, the Commission never refers explicitly to this sea-based counterforce problem, which is a flaw and I think a big error in their report. But if you asked them, they would say that the Midgetman missile is going to be the solution to this problem.

But, as Harold Brown has testified in his supplemental testimony to the Commission, the Midgetman missile itself will require for its survivability large decreases in warheads, major arms control limitations on warheads. So even this member of the Commission, the former Defense Secretary, admits that you cannot maintain the survivability of the ICBM force and the bomber force without arms control.

And so the point I want to make, Mr. Chairman, is if we're going to require arms control—and if the MX missile, by the Commission's own terms, will be survivable only for 5 to 10 years and not for the two decades we normally expect of a missile so expensive—then I would maintain we need an arms control solution now. And I would like, Mr. Chairman, to explain the solution I have in mind.

It is an often unspoken premise of the hearings you have had so far that the United States needs more bargaining capability with the Russians and that this MX missile will be useful as a bargaining chip or as bargaining leverage. The fact of the matter is the Russians have already cried "uncle" about a bargaining chip that we already have.

The Soviet Union made a proposal in February 1981, which Mr. Brezhnev put forward, to stop sea-based counterforce. They were aware that Trident II would open a window of vulnerability on their side and make it possible for us to destroy simultaneously their bombers and their land-based missiles—exactly what I described here would be done to us a few years later.

And they proposed that both sides halt the modernization and improvement of these missiles in the large submarines, the *Typhoon* and *Ohio*-class submarines. So it is a matter of record that they are alarmed about this possibility, which as I pointed out is the main problem of the nineties.

HALT TO NEW-TYPE MISSILES

Now, I propose that the solution to this whole problem is what I would call a ballistic missile holiday, a halt to new types of ballistic missiles on land and sea. We would say to the Russians: We will halt counterforce capability at sea if you will halt, and we will also halt all new types of ICBM's on land.

You see, if there is no counterforce capability at sea, Mr. Chairman, then it will not be necessary for both sides to move their ICBM's around and build new ICBM's, because the Commission has conceded that, in the absence of Soviet sea-based counterforce, there is no window of vulnerability now.

So the Commission has conceded the possibility of a halt to ICBM's on both sides so long as this window of vulnerability does not reopen. So my proposal is to halt the reopening of this window of vulnerability by getting agreement on sea-based counterforce and by requiring the Russians to throw into the pot all the new ICBM's they would otherwise deploy.

To repeat, if we stop the sea-based counterforce, they will not need those new ICBM's, they will not need to go mobile. They will be able to save all that money. And to repeat, according to the Commission, if they do not get sea-based counterforce we will not have to build new ICBM's, MX or Midgetman.

Senator WARNER. The theory being that the present Soviet sub force just does not have the hard target kill capability and cannot synergistically attack bases at the same time. We have an ICBM exchange.

Dr. STONE. Exactly, Mr. Chairman.

ARMS CONTROL

So my conclusion on this part, if I may, is this: Arms control is so intimately involved with the committee's decisions here, as everyone has admitted, I think the committee should hold hearings on the arms control implications of this whole problem and where we are going. We made a mistake 10 years ago of deploying MIRV and now even the people who did it admit that it has backfired and has caused the vulnerability of one arm of our triad.

What I am proposing today, members of the committee, is that the same mistake is about to be repeated in spades. We are about to deploy in Trident II, something which will lead in a few years to the vulnerability of two arms of our deterrent simultaneously. At that point this committee will be confronted with hysteria about a window of vulnerability that will far exceed in the early nineties and the late eighties the concern we have had, which the Commission has so recently closed with such difficulty.

So my first proposal, if I may, is that the committee should hold hearings. I would also incidentally support Senator Nunn's proposal for a Commission on Arms Control if this Commission were not stacked.

But I think the committee, as a preliminary to that kind of Commission, should be having its own hearings. If this proposal I have put forward is not a satisfactory one, someone should think of a better one, because if we do not deal with ICBM's with arms control I think we are going to be in major difficulties.

AMERICA'S BARGAINING POSITION

Well, I would just like to conclude by saying something about America's bargaining position, that I have discussed in my longer testimony. I think Senator Warner has been to the Soviet Union, but most Members of the Senate have not, and as a result most Members of the Senate and almost all House Members have no idea what the Soviet Union is really like.

Senator Nunn has proposed that our military leaders visit there and their military leaders come here, and FAS supports that completely. But we think the political leaders of the two sides especially have got to come see the other side's country. It is not responsible to vote trillions of dollars over the years on both sides without seeing the country one is voting about.

If we saw that country more clearly, I think we would not be so worried about our bargaining position in the short run. Russia is poor, has many problems of its own, and it is not eager, I think, for a technological contest with a country which is technologically so powerful and which has gone from a standing start to beating them in the space race and in the missile gap and in many other contests.

So I think we have the bargaining position for an agreement now. But I want to caution the committee that, in the longer run, I think America's bargaining position will weaken, and the reason for that is ironic. It is that our country is not as crazy as the Soviet Union. We are a democratic country and the Soviet Union is not, and as a result we are going to cease building new warheads long before they do.

Our country will decide that a million warheads is enough, even while the Soviet Union goes on to a billion warheads. And this is what you have seen in this MX controversy. The United States is not so concerned any more with who is "ahead" in the arms race. They just do not want this MX deployed.

So if we go into a long-run contest with the Soviet Union in numbers of weapons, we may lose that contest. They can order a thousand more ballistic missiles with a snap of a finger, while we cannot figure out where to deploy a like number. And when we try for technological end runs on the arms race, as President Reagan tried with his talk about a defensive system—which the Heritage Foundation had the good grace to call a technological end run on the Russians when the foundation earlier proposed it but which the President put forward as good for all mankind—we will find the country gives that the horse laugh, as in fact it did.

There is no way to break out of this arms race with technology. There is no technological solution to the arms race. And so in the long run our country, with its sensible traditions and sensible outside critics, sensible Congressmen, will I think just give up unilaterally on the arms race and leave the Russians a quantitative advantage.

Now, we doves will not complain much about that because we will think a million warheads is enough even if the Soviet Union has a billion. But the hawks of the country will be very upset, because they will say a billion is a thousand times a million and we cannot let the Soviet Union have that kind of quantitative lead.

So I think there is great reason for both sides in this debate to look for an arms control agreement now, and that is what I propose in my testimony.

Thank you very much. I think my time has expired.

[The prepared statement of Dr. Stone follows:]

PREPARED TESTIMONY OF DR. JEREMY J. STONE

Mr. Chairman and Members of the Subcommittee:

It is an honor to be invited to appear before this distinguished subcommittee--whose decisions impact so directly on the survival of our great Nation--and to address a question which is so much at the heart of nuclear strategy: the deployment of the MX missile.

Let me note at the outset that the Scowcroft Commission did solicit my views on January 31, 1983, and, in an hour of gracious give and take, allowed me to sketch a proposal. May I submit, for the record, at the conclusion of my prepared remarks, a copy of that testimony and an editorial from the April 7 New York Times in support of it.

My conclusion then, as now, was that the United States would not get its money's worth in deploying the MX missile, and that, indeed, our security would be impaired by deploying it. The $100 per man, woman, and child it would cost would be better spent elsewhere. Accordingly, I suggested that the Commission give the President at least one option for handling this issue in arms control negotiations. To show it was possible, I put forward an option of this kind myself, which I called Option "B". And I challenged the Commission, if it did not like my arms control option, to come up with some better arms control option for handling an issue which, in the absence of arms control, seemed manifestly unmanageable.

The Commission's report fails even to mention the possibility of using arms control to make MX deployment unnecessary, or well worth refraining from. Instead, it relegates arms control in this matter to the 1986-1990 period where, it alleges, arms control will be necessary to deal with that single-warheaded missile which it wants put under development.

After reviewing the Commission's Report carefully I would most respectfully urge the Committee to take up itself the challenge of shaping an arms control option for handling this issue now rather than later. This will save much money and trouble. Again, I will put forward an option that seems to make sense for this forum, as I did suggest one for the earlier forum. But, again, I certainly do not insist that my own proposal be adopted. On the contrary, my request is that the Committee hold prompt hearings on the general issue of "Arms Control Solutions to the Issue of MX Deployment." Let the Committee take the lead in seeing whether it can find an option that is superior to the one I discuss below and, in particular, whether there are one or more options that are acceptable to the Committee.

If no such acceptable options can be found, no harm will have been done by these hearings. But a decent respect for the opinion of our Nation's citizenry--and mankind in general--would seem to require that the Committee, or this Subcommittee, devote at least a few days of hearings to see whether this particular national security issue is not one that might lend itself to arms control.

SCOWCROFT DECISION WAS POLITICAL

The decision reached by the Commission seems to me to have been a wholly political decision. It cannot be supported on military, strategic, or arms control grounds without distorting decisively the meaning of crucial words used in military, strategic, or arms control lexicons.*

-- Militarily, it simply gives up on the sound military judgment that weapons should be securely based;

-- Strategically, it moves the United States further into a contest in land-based missile deployment which contest we need not maintain and, in numerical terms, will lose;

-- In arms control terms, it puts the cart before the horse by building ICBMs before negotiating the strategic context in which they can be maintained. In this era, ICBMs are like hot-house flowers and we are planting a garden before constructing the hot-house upon which its cultivation depends.

Militarily, this Committee has been constant, vigilant, and accurate on the issue of emplacing MX in Minuteman silos. In 1976, your Conference Committee Report made it a violation of law for the Defense Department to spend monies even to study this possibility. It said:

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*For example, it is not militarily or strategically "stabilizing" to put tempting targets into vulnerable holes; on the contrary, it encourages Soviet pre-emption on the one hand, and U.S. firing on warning on the other. All of this is destabilizing. It does no one any good to redefine the word and call the decision "stabilizing" in so far as it equalizes ICBM forces balances. This is simply substituting a political judgment for a strategic one.

Or again, the deployment of U.S. hard-target kill capability is not desirable on arms control grounds because it "encourages" the Soviet Union to redeploy its heavy missiles, or gives the Soviet Union an "incentive to negotiate." This is not arms control--which is cooperation between adversaries--unless one defines "forced" cooperation as a new kind of cooperation, which is, of course, absurdly far-fetched.

> "The rationale behind the development of a new missile system (MX) is to provide a land based survivable strategic force. The development of an alternate basing mode as opposed to a fixed or silo based mode is the key element in insuring this survivable force. The conferees are in agreement that providing a survivable system should not be constrained for silo basing; that none of this program's funds shall be expended in fixed or silo basing for MX; and that none of the program reduction shall reduce the Department's proposed investigations of mobile deployment."

On March 24, 1982, six years later, this very Subcommittee on Strategic and Theater Nuclear Forces reaffirmed the same conclusion in its Report on the FY 83 Defense Authorization Bill:

> "The number of additional warheads that would survive an attack upon MX missiles so deployed (in Minuteman silos) does not appear to justify the costs--assessed at $2.6 billion over the next five years--associated with this basing scheme."

> "The Committee also is concerned that the possibility may exist that strategic deterrence and crisis-stability could be jeopardized, rather than enhanced, by the deployment of high-value, militarily important weapons in so small a number of relatively-easily destroyed shelters."

This report was endorsed, as you know, by Senators Thurmond, Goldwater, Cohen, Quayle, Jackson, Nunn, Hart, and Exon.

Others who expressed the same views within a year or so of that date included the Chairmen of both the Senate and House Armed

Services Committees (John Tower and Melvin Price), the Secretary of Defense (Caspar Weinberger), the Undersecretary of Defense for Research and Development (William Perry), the Chairman of the Joint Chiefs of Staff (General David Jones), and the Chief of Staff of the U.S. Air Force--the service responsible for the program (General Lew Allen). Their statements are attached in Appendix A.

In sum, an extraordinary consensus existed two years ago against this very approach.

As late as one year ago this week, this Senate Armed Services Committee included in its April 14, 1982, Report on the FY 83 Defense Authorization Bill, an order to halt any "further work...in support of fixed-point silo basing of MX." It said:

> "The planned interim basing of MX does not redress the problem of the vulnerability of the land-based ICBM force-...The $715 million requested for research and development on interim basing of the MX is denied. No further work is to be undertaken in support of fixed-point silo basing of MX."

Strategically, we ought not exaggerate the significance of the ICBM contest because it is not one which we can win. The Soviet Union has the geography, and the absence of political restraints, which make it easy and attractive to deploy ICBMs. We, by contrast, have access to the oceans, which, happily, is much to be preferred. Why turn this contest in ICBMs into an overblown contest of "will." The Soviet ICBM preponderance is simply a preponderance of potential and actual vulnerability and not to be envied.

In any case, in terms of arms control, there is no ICBM deployment in the United States, fixed, or mobile, that will retain independent invulnerability without an arms control agreement. This is what President Carter announced when he said, in the State of the Union Address in 1980:

> "Without the SALT II limits, the Soviet Union could build so many warheads that any land-based system, fixed or mobile, could be jeopardized."

Confirming that statement, the Commission's consultant, Harold Brown discussed the new Midgetman ICBM in these terms:

> "But this new system still has many uncertainties, particularly in terms of cost and of the feasibility of hardening truck mobile missiles or superhardening fixed shelters. For example, *unless the United States can negotiate severe limits on the level of ICBM warheads, the number of single warhead missiles needed for a force of reasonable capability and survivability could make the system costs, and the amount of land required, prohibitively great*. We also do not know whether truck-mobile missiles will be able to survive a megaton blast two miles away. Lacking that hardness, the mobile system is easily barraged into destruction or forced into peacetime deployment on highways, which would raise political difficulties." (italics added)

In sum, we need arms control restraints on ICBMs *whatever* ICBM deployment we engage in, if that deployment is to maintain a modicum of independent invulnerability. Why not negotiate the necessary arms control now, and save the $16 billion or more for the MX and the $69 billion sometimes estimated for the small missile deployment.

THE COMMISSION CLOSED THE WINDOW OF VULNERABILITY

The Commission conclusions are, however, valuable to the Committee in one regard especially. The Commission has shifted the strategic accounting rules from requiring that ICBMs be invulnerable on their own to the more sensible original requirement that they should simply contribute to a strategic force which is, overall, secure against attack.

The implications of this closing of the window of vulnerability are far-reaching and worth a moment of reflection:

1) CASE FOR MX ENORMOUSLY DIMINISHED: If one will excuse the pun, in closing the window of vulnerability, the Commission threw out of the same window the primary rationale for MX, viz., that it would enhance the then-said-to-be-crucial invulnerability of the land-based missile force. Obviously, the case for the MX is enormously reduced.

2) CASE FOR SINGLE-WARHEADED MISSILE ALSO MUCH REDUCED: As another consequence of this report, the case of "de-MIRVing" and "single-warheaded" missiles has also been undermined--even while the Commission report gives rhetorical encouragement to it. After all, if one concedes that the land-based missile force need not be invulnerable on its own, why spend tens of billions to spread it out with small mobile missiles, in a search for such invulnerability. (Some estimates suggest this would cost $750 per family of four.)

Backers of the single-warheaded missile approach were at pains to seek to resolve "even hypothetical" surprise attack problems. To my mind, this 15-year-old debate over land-based missile vulnerability reveals that there will always be "hypothetical" surprise attack problems associated with manipulative shifts in the strategic accounting rules. The solution to these fears is not another decade of force building or force substitution but a political struggle to maintain proper accounting rules.*

3) VALUE OF U.S. HARD-TARGET CAPABILITY THROWN INTO QUESTION: As a third consequence of the Commission's closing the window of vulnerability, we must review the significance of seeking hard-target kill capability against Soviet silos. They also may have accounting rules that seek a deterrent that is, overall, invulnerable to attack. If the vulnerability of our land-based force standing alone is not that important, why is it so important to make their land-based force vulnerable? What, in particular, makes us think they will take down those heavy vulnerable missiles just because we make them vulnerable--which, indeed, the heaviest missiles seem to be already from Minuteman III missiles. More likely they will just buy more missiles. The Russians don't throw things away!

If it is the survivability of the overall strategic forces that matter, and their deterrent capability, who are we kidding when we talk--as this report does--of this deployment of 100 MXs providing:

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*Buying off defense scares with new weapons is simply too expensive. As a splendid example of the fact that there is always something to worry about, if one wants to, the United States is periodically alarmed about Soviet civil defense programs. This is after 10 years of Soviet compliance with an anti-ballistic missile treaty giving all our ICBMs and SLBMs a free ride in attacking Soviet cities and population.

Building ones way out of defense scares also takes too long, during which time new defense scares arise. As an example of how another decade might buy time for another defense scare, we have the President's recent Star Wars speech which reveals that the 1990s, with specters of spacebased ABMs, could soon provide "hypothetical" threats to the future well-being of small mobile ICBMs.

> "a means of controlled limited attack on hardened targets but not a sufficient number of warheads to be able to attack all hardened Soviet ICBMs..." (italics added).

We are not going to attack the Soviet Union in less than an all-out way because we are not crazy. Why continue to pretend we are crazy after closing our own window of vulnerability.

4) CASE FOR ICBM REDUCTIONS ENHANCED: When I proposed to the Commission that parallel reductions of ICBMs on each side might help resolve the political and strategic issues involved in land-based missile vulnerability, I was told that reductions would not, in and of themselves, solve the problem of ICBM vulnerability. Now that the Commission has resolved that issue by closing the window of vulnerability, proposals for simultaneous bilateral reductions in land-based missiles, and other analogous proposals deserve another look.

ARMS CONTROL SOLUTIONS TO THE MX ISSUE

Not long ago, at a press conference, the President assured the Nation that, at the START talks, everything was on the negotiating table. Nevertheless, the Administration position, thus far, has been that the MX was not negotiable and was not a "bargaining chip." It is described instead, as a way of providing "bargaining leverage." I have never understood what this could mean. If one agrees in advance that there is no price which the Administration would take for non-deployment of MX, then what "leverage does it provide? It is argued that the ability of MX to destroy Soviet silos would somehow help us in negotiations. But, to the extent to which MX outmoded existing Soviet deployments, it would, presumably, hurt us in negotiations by making non-negotiable offers which the Soviet Union might otherwise have made to halt ICBM procurement.

In any case, what follows are two possibilities which would result from the common-sense assumption that, in principle at least, there was some price which the U.S. would take for the non-deployment of MX.

Option B; Halt All new ICBMs permitted under SALT II: Within the valuable SALT II context, MX plays the role of the one-new ICBM permitted under SALT II rules. There is, also, a corresponding single new ICBM permitted to the Soviet Union which it has only begun to test (and the right, on both sides, to vary existing missiles within 5% variation of key parameters).

One natural solution to the MX, using arms control, is to ask the Soviet Union to give up the one new ICBM which it is permitted in return for our one-new ICBM. Neither would be permitted, accordingly, any new type of ICBM. Indeed, each superpower made this proposal to the other during the SALT II negotiations but, having made the proposal at different times, they failed to reach agreement on it.

Accordingly, I urged the Scowcroft Committee to recommend that the Administration inquire of the Soviet Union whether the Soviet Union would interrupt its initial flight tests of its one new ICBM if the U.S. were to put off flight tests of our one new ICBM--whether MX or some follow-on substitute for it. Recognizing that the Administration, at that time at least, considered our MX to be more valuable to us than the new Soviet ICBM was to it, I suggested that these halts be made contingent upon superpower agreement on a package of strategic force reductions. This is the Option B proposal which, on the surface at least, the Scowcroft Commission rejected.

It is important to note that the U.S. has something to trade here whether or not the MX is approved by the Congress. Even if it is disapproved, the U.S. retains the right to replace this ICBM with some other ICBM, such as a single-warheaded ICBM. And I believe that this warhead could be flight-tested within the remaining period of the SALT II agreement (i.e. before December 31, 1985) and, in any case, this regime might be extended.

No Vulnerability Gap Under Option B

While U.S. land-based missiles are technically vulnerable to Soviet ballistic missile attack, they contain only approximately 2100 warheads or about 25-30% of our ballistic missile warheads on land and sea.

By contrast, a much higher percentage of the Soviet strategic force would seem to be vulnerable to attack form U.S. ballistic missiles. The Soviet Union has, on land, about 6000 warheads of its 8000 total, (SALT II counting rules).

About 3,000 are mounted on 308 SS-18s

About 1,900 are mounted on 310 SS-19s

About 600 are mounted on 150 SS-17s

Thus 5,500 are mounted on fewer than 800 targets.

The United States has deployed, already, 1650 accurate warheads on its 550 Minuteman III missiles--i.e. two such warheads for each tempting Soviet target above. These have accuracies, according to the International Institute for Strategic Studies, of between 220 meters and 290 meters (CEP), and the warheads vary between 170 kilotons and 335 kilotons. (According to my rough estimates, the newer version of Minuteman III would even produce a crater, and lip of crater, that would, more than half the time, cover the Soviet silo at which the warhead was aimed. And there are 900 such warheads.

The Committee can correct me if I am wrong. But I believe this means that the United States can attack effectively at least the SS-18s alone. This would still enable destroying 30% or so of their overall ballistic missile warheads--this is already as much as the 30% they can destroy of ours.

In short, our problem of ICBM vulnerability is smaller, really, than is theirs when the Soviet emphasis on ICBMs is taken into account. For this reason "Option B: Closing The New ICBM Loophole" in SALT II does not leave an unfair balance of vulnerability.

BALLISTIC MISSILE HOLIDAY; HALT ALL NEW TYPES OF LAND AND SEA-BASED BALLISTIC MISSILES: Under the SALT II Treaty, each side has the right not only to flight test, procure and deploy one new type of land-based strategic missile but the right to deploy any number of new types of submarine-based strategic ballistic missiles. In effect, however, they are working on one important new SLBM. The U.S. is planning to flight-test and deploy the Trident II missile within the next few to several years and to deploy it in the ninth Trident submarine (while backfitting it into the eight earlier Trident submarines armed with Trident I missiles.) The Soviet Union has its own Typhoon submarines matching the U.S. Ohio class and will, presumably, build a counterpart to the Trident II, just as it has built counterparts to our Polaris, Poseidon and Trident I missiles.

These SLBMs will change the strategic balance in an important way by making hardened targets, including missile silos, vulnerable from sea. The Soviet Union is interested in halting this new development. We know this from the speech of Leonid I. Brezhnev on February 23, 1981 in which he said:

> "The USSR is prepared to negotiate limitation of weapons of all types. At one time we offered to ban the development of the naval Trident missile system in the United States and of a corresponding system in our country. The proposal was not accepted. As a result, the United States has built the Ohio submarine armed with Trident-1 missiles, while an analogous system, the Typhoon, was built in our country. So who has stood to gain?
>
> *We are prepared to come to terms on limiting the deployment of the new submarines--the Ohio type by the USA, and similar ones by the USSR. We could also agree to banning modernization of existing and the development of new ballistic missile for these submarines."*(italics in original).

In short, the Soviet Union would, in particular, be interested in banning "modernization of existing, and the development of new, ballistic missiles" for the Ohio and Typhoon submarines.

The United States also has a strong interest in getting

Soviet agreement to halt couterforce capable Soviet SLBMs. General Brent Scowcroft advised the Committee on April 18 that the main reason why the Commission had "closed the window of vulnerability" was that the Soviet Union could not now attack simultaneously and on short warning our land-based missiles and our bombers. He warned however that:

> "this will continue until they have submarine forces accurate enough to attack silos"

In sum, if we do not prevent the Soviet Union from getting this capability we will witness new fears about the security of our deterrent--and not just on one arm of the triad but on two!

Now the common interest on the two sides in preventing this submarine based counterforce capability would seem to make possible a deal in which the two sides would limit new types of ICBMs and SLBMs. The United States may believe that it has advantages in developing a sea-based counterforce capability and the Soviet Union may feel that it has advantages in developing ICBMs. A deal preventing any new types of ICBMs and SLBMs might result.

This proposal for a ballistic missile holiday would presumably be adjoined to a continuation of the SALT II regime. And since the right to build new types of sea-based and land-based missiles represents one of the most significant loopholes in SALT II, this package could be described as a SALT-II based freeze of a kind.*

It seems worth noting that citizens can understand a halt to new strategic ballistic missiles quite well; as a result, popular support can be found to support such an agreement. Indeed, the President has made the case, in developing his START proposal, that ballistic missiles have a specially dangerous role in the arms race; the relevance of halting the introduction of new ballistic missiles while these reduction plans are being negotiated would also be clear to citizens.

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*There would still be freedom to mix under the SALT II limits within the sublimits prescribed and there would be the right to air-launched, sea-launched and ground-launched cruise missiles, all of which would preclude this agreement being a true strategic weapons freeze.

LEGISLATING ARMS CONTROL

Both "Option B: Closing the ICBM Loophole" and the "Ballistic Missile Holiday" have the advantage that they can actually be legislated by the Congress in a bilateral fashion. What I mean by that is this - The Congress could pass legislation that would say something like:

"OPTION B"

> No funds shall be spent after October 1, 1983, to flight-test the one-new ICBM permitted by SALT II unless and until the President certified that the Soviet Union had flight-tested the one-new ICBM permitted to it after that date."

Or:

BALLISTIC MISSILE HOLIDAY

> No funds shall be spent to flight-test, or deploy the one-new ICBM permitted by SALT II or the Trident II unless the President certifies that the Soviet Union is flight-testing or deploying the one-new ICBM permitted to it or a sea-based follow-on to the SS-NX-20.

GOAL OF ARMS CONTROL SHOULD BE TO NEGOTIATE A HALT TO THE CONTEST

Obviously, there are other possible proposals including larger packages in which freezes of strategic weapons, or even strategic and theater weapons might be involved. Reductions of various kinds could be included as well, although these seem of less importance strategically, militarily and in arms control terms than stopping new technological developments on each side.

In this regard, I disagree with the implications in the Scowcroft Commission report that the goal of arms control is simply to "channel" the arms contest--presumably until it either peters our or explodes into war.

It would be irresponsible for American leaders to adopt such a limited view of arms control because we cannot depend upon the arms race petering out. Under these circumstances, we have no alternative but to pursue the possibility of a negotiated halt. No matter how difficult it may sometimes seem, the stakes--our survival--are too high to reject out of hand such a potentially valuable third option.*

OUR BARGAINING POSITION IS ADEQUATE TO SUPPORT THE ARMS CONTROL THAT IS ESSENTIAL TO OUR SECURITY

Arms control is the key to our security because we want to stop the Soviet Union from building more and more nuclear weapons, not to build more ourselves. And since we cannot force them to do so, the only way to stop them is to negotiate with them! In short, we must do what members of this Committee are trained to do: palaver and cut a deal.

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*The first priority in arms control, in this regard, is not reductions. The greatest present dangers to our survival are not associated with the numbers of weapons but their means of deployment and their likelihood of going off. It is for this reason, among others, that I do not favor the notion of permitting each side to buy the right to continue technological development by reducing warheads--the so-called "build-down" approach. This notion is popular precisely because warheads are now in existence in great excess and new weapon developments are the main current arena.

The Committee ought not fear that our bargaining position is weak. Those members who have visited the Soviet Union may realize that the Soviet position, and their sense of their position, is weaker still. The Russian people have even more confidence in our technology than do we. They have also an even greater sense of their own inferiority, and vulnerability to attack than these deserve. Their fear of war is also more tangible than our own. And their economic situation, and their political situation, have locked them into a strong desire for arms control for thirty years. Every Treaty we have signed with them, thus far, has given us, rather than they, the military advantages precisely because, in the end, their hard bargaining weakens in the face of political instructions to settle, while the diversity of our Senate and our Constitutional requirement of Senate ratification stiffens our position.* They do seem to have a continuing interest in ending the arms race for a variety of reasons. While we do also, our own Government, with less central authority, seems to move decisively toward arms control only under the irresistible pressure of public opinion when, about once a decade, the citizens rebel.

PROSPECTS FOR WINNING THE RACE ARE BLEAK, AND SURVIVING IT, GRIM

Although, as I say, I believe that our favorable bargaining position is strongly anchored in the attitudes and situations of the two sides, a continuation of the arms competition will, I firmly believe, produce outcomes unpleasant indeed to this Committee on Armed Services. There is every reason to believe that the Soviet Union will, over time, pull ahead in numbers of weapons, albeit numbers of nuclear weapons that are highly irrelevant, if unconstrained by arms control.

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*The Atmospheric Test Ban Treaty came at a time when the U.S. was much more experienced in underground testing and much better able to exploit that loophole. The ABM Treaty precluded the Soviets from neutralizing the strategic threats from our allies, Britain and France. The SALT II Treaty had, according to the Joint Chiefs of staff only a "nominal effect" on our program but it restricted the Soviets from developing four new missiles, and required them to cut 10% of their force.

Why is this? It seems obvious to me--and a tribute to the common sense of our citizenry and the democratic structure of our Nation--that we will be the first to tire of deploying redundant numbers of nuclear weapons. It seems obvious that the Soviet Union, which doubts its own technology will continue to take refuge in correspondingly larger numbers of weapons. It is also the Soviet Union which has the greatest sense of embattlement and encirclement. It is, after all, the Soviet steel-eaters of yesteryear that are now locked into the arms race. Thus, in a quantitative arms race, they will hold their own, at least, and very possibly draw ahead.

While many Americans care little whether the Soviet Union has one billion warheads, so long as America retains one million warheads, this Committee would not abide an outcome in which the Soviet Union had 1,000 times more warheads than would we. This is a caricature, perhaps, but a meaningful one of what I believe the future holds in the quantitative arms race continues.

I am not alone in taking this pessimistic view. It is no accident that the Heritage Foundation "High Frontier" program discusses outer space as the only area in which we might get a technological "end-run" on the Soviet quantitative drive. But, as virtually all American scientists know, the effort to get a total defense against nuclear weapons mounted by a motivated superpower, through developments in outer space, is an obvious mirage. In short, while our present bargaining position is strong, the projected course of the arms race is a bleak prospect.

When we add to this projection the obvious fact that warning time is steadily being reduced as the arms race progresses, we must conclude that war through inadvertent or careless escalation is increasing in likelihood. Even at the present stage of the arms race, excessive tension between the superpowers must be deemed a direct threat to our survival. It increases the likelihood of uncontrollable escalation subsequent to any, always possible, outbreak of violence in this overarmed world. Just as the chance of winning the arms race must be deemed bleak, the prospect of surviving the arms race must be termed grim.

In sum, in the arms race, as I see it, both superpowers are behind and neither can get ahead. In the direct line of enemy fire, as they are, each runs the greatest risks of imminent destruction which any great Nation has ever run. No nations in the Southern Hemisphere are in so vulnerable a situation as the Superpowers. Imagine what our Founding Fathers would think of the National Security situation which the Committee Members now survey from their chairs on this elevated dais.

ARMS RACE FOLLOWING THE COURSE OF VIETNAM WAR

The Arms Race is clearly becoming the Vietnam of the 1980s and 1990s. A popular movement against the arms race is growing, fueled by many who learned to question authority in the 1960s and 1970s during that war. The excesses and ritualized rationalizations of the arms race excite the same reactions from them:

contempt and bewilderment. Their sense of personal involvement is no less great also since all are being drafted, whether they wish to go or not, in the possibility of nuclear war.

The political imperative which led the Reagan Administration to buy off the European Peace Movement with a "zero option" plan was only the beginning of a trend that has already seen the Eureka speech--and many subsequent attempts--to placate and/or undermine the American peace movement. But the popular percentages in support of a negotiated halt to the arms race have been--and continue to be--astoundingly high: between two to one and four to one in the polls I have seen.

The American domestic base for continuing the arms race is waning. In the absence of honest efforts to end the arms race, this movement will withdraw its support from American strategic weapon procurement. Accordingly, arms control is a narrow window of opportunity to settle this contest on an agreeable basis. If this opportunity is not seized, the Committee on Armed Services will find it increasingly difficult, in the 1990s or even before, to get the authorizations it considers essential. This is not a threat but a warning of impending inexorable developments. The sooner our nation moves toward a negotiated halt the better it will be for all of us.

"APPENDIX A"

Sen. John Tower, November 2, 1981

"By stuffing the MX's into fixed silos, we're creating just so many more sitting ducks for the Russians to shoot at...True, the MX missile itself will be more powerful, more accurate -- and we need that kind of weapon. But it's of little use to us unless the Soviets are convinced that it can survive an attack. Without that, the Russians will have no incentive to start serious arms-control talks."

Rep. Melvin Price, October 6, 1981

"What is to be gained by deploying just 36 MX missiles in existing silos? If 4,600 silos of the MPS mode would be too vulnerable to proliferation of Soviet ICBMs, how are 36 or even 100 MXs in fixed silos to be more survivable? What technical knowledge do we have now as to the feasibility of deep silos basing?"

Caspar Weinberger, Secretary of Defense, January 6, 1981

"I would feel that simply putting it (the MX) into existing silos would not answer two or three of the concerns that I have: namely, that (the location of) these are well known and are not hardened sufficiently, nor could they be, to be of sufficient strategic value to count as a strategic improvement of our forces."

General David Jones, then Joint Chiefs of Staff, October 5, 1981

"In my own view, I consider the MX in a very survivable mode to be extremely important to the security of the Nation. I remain to be convinced there is a survivable mode other than MPS. So, if forced with the difficult choice, B-1, ATB, and MX, I would put MX last under the current program slice."

General Lew Allen, Chief of Staff, U.S. Air Force, January 29, 1981

"...an essential feature of the MX deployment is that the basing mode be survivable. One does not obtain that through placing it in Minuteman silos. Therefore, I do not favor such a deployment."

William Perry, Former Undersecretary of Defense,
November 13, 1981

"My concern is that if we had this very accurate, very threatening missile in unprotected silos, and if they do not go to a survivable system themselves...that simply increases the hair trigger...on both sides."

"I agonized over that and said on balance I would not go ahead with that (MX in silos) because I don't believe we will

Dr. Richard DeLauer, Undersecretary of Defense for Research and Engineering, March 11, 1982

"The reason that I did not relate interim basing (of the MX missile in Minuteman silos) to the survivability problem is that the resulting survivability will be no better than it is now."

April 22, 1983

SUMMARY

The Scowcroft Commission on Strategic Forces reached a political, rather than a military, strategic or arms control decision. In particular, its widely touted references to arms control omitted any discussion of arms control "now" with which to resolve the MX issue without procurement. The Committee should hold prompt hearings on the general issue of "Arms Control Solutions to the MX Deployment Issue."

The Commission justified the emplacement of MX in fixed vulnerable silos on the wholly irrelevant fact that the Soviet Union could not today, or in the "near term", attack our land-based missile silos and our bombers simultaneously. This is why the Commission is reported to have "closed" the window of vulnerability.

But the MX would not be completely deployed until the later 1980s anyway. By that time, a new and more serious window of vulnerability will be on the horizon as the Soviet Union moves to match U.S. plans for sea-based counterforce-with our Trident II, (alias D-5) missile designed to begin deployment in 1989. It would be foolish indeed to base U.S. plans on the assumption that the Soviets would be more than a few years behind, if that, on a matter so important and so much within their control.

With sea-based counterforce capability, the Soviet Union can indeed simultaneously strike both Minuteman silos and the bomber bases; in fact, it can do so with only ten minute warning time from submarines off our shores.

In sum, the central reason given by the Scowcroft Commission for permitting the MX to be placed in vulnerable silos was based on an elemental error. The issue is not whether an alleged window of vulnerability exists today, or in the "near term", as the Commission put it, because we cannot deploy MX today and cannot sufficiently enjoy its use in the "near term" only. The real question for the Commission is whether these silos will be safe by the time MX is fully deployed and for a reasonable time thereafter. It seems that, measured in this fashion, the useful life of MX is going to be far too short to justify its deployment--even in the Scowcroft Commission's own terms of windows of vulnerability. Not even one much less two decades, can be assured.

The Armed Services Committee should recall Scowcroft Commission members to ask them their views on this critical point: how long will MX be viable? Are they, in fact, basing MX viability on the wholly untested possibility that they can come up with subsequent invulnerable basing for a follow-on Midgetman missile? If so, they are living dangerously. Such basing for that new system--as former Defense Secretary Harold Brown conceded, in a supplemental statement--would require major arms control limits on warheads. So it cannot be depended upon either since arms control is itself uncertain! So the Commission has no answer whatsoever to invulnerability of basing, except arms control. Why not arms control now?

The solution to the dilemma is a Ballistic Missile Holiday in which both sides would agree not to build any more new types of ICBMs or SLBMS. The agreement on SLBMS would prevent sea-based counterforce and thus keep this window of vulnerability as closed as it presently is. Accordingly, each side could then afford to preclude the construction of the new ICBMS that would otherwise be thought necessary.

This position appears to be negotiable, In fact, on February 23, 1981 the late Leonid Brezhnev said:

"We are prepared to come to terms on limiting the deployment of

> the new submarines--the Ohio type by the USA, and similar ones by the USSR. *We could also agree to banning modernization of existing, and the development of new, ballistic missiles for these submarines*." (italics added)

In short, the U.S. *already* has the bargaining position necessary to secure the bargain we need. We could, by trading off Trident II, buy protection for our ICBMs and bombers from the emerging Soviet counterforce threat from the sea, and in so doing, make possible and demand, a corresponding halt to new ICBMs on *each* side. This is more national security than either MX or Midgetman or both can provide and it would cost absolutely nothing. What is wrong with this?

Jeremy J. Stone
Director

TESTIMONY OF JEREMY J. STONE BEFORE THE COMMISSION ON STRATEGIC FORCES

Mr. Chairman and Members of the Commission. It is a valued privilege to appear before this select Commission. Few such official commissions on major strategic weapon programs have reached out to solicit the views of public-interest groups. We take this invitation as a token of the fair-mindedness of the Chairman and the Commission, but also as an indication of the importance of finding a solution to ICBM vulnerability that can maintain at least a modicum of public support. In this, as in other matters, domestic politics and national security have become ever more intertwined. Small groups of specialists can no longer enjoy the luxury of deciding these issues in splendid isolation.

ICBMs CANNOT SURVIVE OUTSIDE AN ARMS CONTROL ENVIRONMENT

In our view, the Commission has to decide between fundamentally different approaches to the ICBM vulnerability issue. It can attempt to resolve this issue:

a). through unilateral U.S. decisions and deployments taken outside the context of SALT II limits;
b). through unilateral U.S. decisions and deployments taken within the context of SALT II limits;
c). through bilateral negotiations with the Soviet Union in the context of further arms limitations and/or reductions that go beyond SALT II.

If it chooses either of the first two approaches, I believe that the Commission will fail. It is, of course, hard to prove the negative assertion that no basing scheme or missile can be found to solve the problem of ICBM vulnerability without further negotiations with the Soviet Union. But the history of this effort is, one must admit, suggestive.

The very reason the Commission has been created is because of the failure of so many different efforts to solve this problem outside the context of further arms control. More than 30 different basing methods have been tried and found wanting for some combination of political or strategic flaws. And the political and strategic restraints upon the Commission are growing--not declining. The public shows increasing impatience with further ICBM procurement and deployment. And the strategic community grows more expert at foreseeing decisive Soviet responses to U.S. measures.

Even editorial writers have begun to recognize the bankruptcy of efforts to keep ICBMs in business against determined adversary responses. Our own Federation predicted this situation a decade ago. And we know of writers predicting this dilemma that go back a decade further--as, I am sure, do the members of the Commission.

It is true that one could shift the accounting rules. Just as it is impossible to audit a bank without accepted accounting rules, so also is it impossible to assess the vulnerability of our Minuteman missiles in the absence of any strategic-accounting context.

For example, real-world assessment of the uncertainties involved--when combined with the existence of two other arms of our strategic triad--would strongly suggest that an attack on Minuteman missiles is more than adequately deterred. By this view, any solution or no solution would be acceptable.* But if the Commission, at this late stage, were to accept this point of view--if, for example, it simply placed the MX missile in existing discredited silos--it would become such an obvious target of ridicule as to risk bringing Garry Trudeau out of retirement!

On the contrary, the Defense Department, by inclination and declaratory policy, has firmly committed itself in this matter to a certain kind of worst case analysis. In this analysis, Soviet technology is held to our own standard. Uncertainties, and the existence of other arms of our deterrent are down-played or ignored. By the terms of this accounting system, the United States would have to take very extreme actions to maintain ICBM invulnerability-- actions outside the scope of SALT II. And were it to do so--by these same accounting rules and common sense--it must assume Soviet actions of a comparable kind, outside the scope of SALT II, and potentially involving a further Soviet major buildup.

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* Two ways of measuring the exaggerated quality of the land-based missile vulnerability problem are these. First, far less attention is given to, and far less money is spent on, the far more important issue of survivability of command and control. The reason is that there is no industry-related procurement solution that would be encouraged by emphasizing that vulnerability so no one does. Second, some "solutions" for the vulnerability problem--such as spending tens of billions of dollars to put one or two thousand missiles in separate holes--will not, in fact, enhance survivability at all; they simply increase somewhat the cost in warheads to the Russians of destroying our ICBMs. If we really feared a disarming attack, we would not consider this "solution" to be a solution at all. Certainly, the Russians are not going to care whether this attack takes one, two or five warheads per weapon destroyed they will only ask if they have enough--and this they can have.

Against such a response, there is no reasonably permanent technological solution but simply an on-going arms race. As President Carter put it in his State of the Union Address in 1980:

> "Without the SALT II limits, the Soviet Union could build so many warheads that any land-based system, fixed or mobile, could be jeopardized."

Even if the Commission can find an action it considers suitable _inside_ the context of SALT II, the entire deployment would then become dependent upon an extension and renewal of SALT II beyond 1985. To spend billions of dollars on the assumption that these SALT limits will be extended would seem, under present international political conditions, foolhardy. This is especially true if the missile to be deployed is going to put great strains on the Soviet land-based missile deployment, as the MX would (and as Trident II will).

THE THIRD ALTERNATIVE: GIVE THE NEGOTIATIONS TIME; LOOK TOWARD REDUCTIONS; DON'T MAKE A NEGOTIATED SOLUTION IMPOSSIBLE

The third alternative is to resolve the problem of land-based missile vulnerability through bilateral negotiations with the Soviet Union. The Soviet Union, after all, has the same problem; indeed, it has 70% of its warheads on land to our 25% and so it has reason to be thinking about the issue. Moreover, the United States has great bargaining leverage to secure a successful negotiation because it threatens to deploy not only MX but Trident II--weapons which would increase the Soviet vulnerability problem with their countersilo capacity.

The indicated solution to the vulnerability issue, is moreover, pretty obvious. The two sides should reduce their emphasis on these coming-to-be-vulnerable missiles by reducing the proportion of ICBMs in the evolving strategic force. In short, they should jointly engage in substantial reductions of strategic forces and, in so doing, selectively dismantle the more vulnerable weapons. This can and should be done in such a way as to give each side considerable leeway to determine what it wants to maintain and what not. (After all, the question of land-based missile vulnerability is highly subjective and political--as we know from observing our own different accounting rules--and thus can only be solved by each country for itself.)

Now the happy fact is that both sides are working, already, on this agenda. President Reagan has proposed missile reductions of 50% in his START plan as also President Carter proposed 50% reductions of strategic delivery vehicles. The Soviet Union has proposed 25% reductions of strategic delivery vehicles to 1800 vehicles.

True, the Administration may not be moving toward a negotiated reduction agreement at this time. But, even if this Administration does not negotiate such an agreement, it seems clear that any next Administration will be firmly committed to serious negotiations on both a freeze and reductions.

In principle, therefore, the two sides are quite close--in substance and in years--to establishing a framework in which they could solve the vulnerability problem through disarmament. Each could keep enough land-based missiles to maintain a triad, and to complicate attacks from the other, while decreasing land-based missile emphasis to the point where attacks on that arm of the deterrent were no longer viewed as disabling. Why try to solve the problem with buildups that will take a decade to complete when build-downs are within a few years and could do the same job? Moreover, if either or both sides move toward mobile ICBMs, the possibility of achieving a new arms control context may be fatally injured by the difficulty of verifying the new mobile ICBMs.

And if agreement cannot be reached to resolve the vulnerability problem through arms control, the U.S. will want, in that event, to stop and think. It is doubtful that we want to engage in an open-ended race of land-based missile deployment. In the logic of even fifteen year olds, it would be considered clever to decrease the number of our ICBM "targets" while leaving their ICBM buildup as exposed and vulnerable. What does our much vaunted greater "agility" mean if not to finesse the Soviet ICBM buildup? It is only in the logic of 12 year olds that we must toe each and every chalk line and slug it out, even with Goliath.

REDUCING VULNERABILITY BY SELECTIVE DISMANTLEMENT

As the Commission knows, or will learn in its hearings, there are a number of proposals around for how reductions could re-establish what stability is feasible. Some would require, or permit, a new ICBM and some would not.

A proposal of Senator William Cohen would have both sides agree to dismantle older missiles at a ratio of more than one to one for each missile built.

A proposal of Congressman Albert Gore, Jr. would have each side dismantle all of its MIRVed ICBMs and then, if it wished, replace the older missiles left with a new single-warheaded missile.

We prefer, as will be indicated below, the scheme of simply shrinking SALT II limits as proposed by President Carter to Leonid Brezhnev in June, 1979 when, as he wrote in his book:

> "I wanted immediate implementation of SALT II with its strict limits, an additional 5 per cent annual reduction in these limits for the five years of its duration, a commitment to lower SALT III limits by at least 50% below those of SALT II ...."

It turns out, as we will show, that such 50% reduction of the SALT II limits would produce 80% of the Reagan START plan while providing each side with the flexibility needed to sculpture its land-based forces to whatever shrunken size it wished.

But before describing this proposal, we simply emphasize that none of these methods of resolving vulnerability through bilateral dismantlement can be done without U.S.-Soviet negotiations. Neither Senator Cohen, nor Congressman Gore, nor our Federation, can dictate to the Soviet Union the method of reductions that will be acceptable to them after spirited superpower negotiations. We can only show, as we have, that a range of methods exist to solve the land-based vulnerability problem in a bilateral context.

OPTION B: BILATERAL PAUSE, BARTER AND (ONLY THEN) BUILD

But if the vulnerability problem is to be resolved in a bilateral context, one thing seems clear. The two sides should negotiate that context before, not after, they commit themselves to which new type of ICBM they plan to build under the SALT II regime.

The Soviet Union has had one failed test of its new ICBM, and perhaps one other, and has observed the SALT II regime by reporting the first test as its first. The United States has put off tests of its one-new-type of ICBM permitted under the SALT II regime until it can decide whether it wants MX or some other missile.

It is the main conclusion of this testimony that a U.S. effort should be made to negotiate a moratorium or negotiator's pause on further such flight tests on both sides (of the one-new-ICBM permitted by SALT II) before taking further action.

As the Commission knows, during the SALT II negotiations, both sides made the proposal to preclude any new ICBMs, but, unfortunately, at different times and so failed to reach agreement. But this shows that the proposal is not unthinkable.

More recently, Marshal Ustinov stated, "If the present White House leadership runs the gauntlet of common sense by starting MX missile deployment, the Soviet Union will deploy in response a new ICBM of the same class, and its characteristics will not be inferior to those of the MX missile in any way." This was widely treated as a threat but could, equally well, be treated as an offer. It invites the U.S. to inquire whether the Soviet Union would be willing go put off its one-new-type of ICBM in return for our doing so as well.

In other words, were the Federation to draft the Commission's report to the President, a paraphrased form of it would read something like this:

> Mr. President: We see no politically feasible technological solution to land-based vulnerability problems outside the context of arms control. Happily, we see both sides proposing substantial disarmament which, if agreed, would permit the two sides to resolve their concerns through their own freedom to choose which strategic weapons they preferred to dismantle and which to keep.
>
> You have asserted that the Soviet Union is negotiating

"seriously" in these talks. The outcome of the talks would seriously impact on the decision of our Commission on what to deploy, and when and how.

For example, if the arms talks broke down, and even SALT II limits failed to be adhered to, much might have to be deployed and it might become politically feasible to do so. On the other hand, it is equally possible that no new ICBM would be necessary and that, at these talks, important Soviet concessions could be secured by agreeing not to deploy such a new ICBM. And there are possibilities in between.

With this in mind, we would like to know whether the Soviet Union would agree to a prompt moratorium on flight-testing of its one-new ICBM, which it has just begun to test, in return for a comparable U.S. halt in the flight-testing of our one new ICBM.

If this moratorium could be achieved, it would buy time for all of us. Your negotiations on reductions, if successful, could then provide a context for our subsequent decision on which, if any, missile to buy. In our view, no bargaining leverage would be lost by this because, if the negotiations toward reductions failed, the U.S. moratorium could and would be ended. The U.S. could return to deploying its MX or some other substitute as before. In short, the Commission's decision, and the Administration's decision, would have the bargaining advantages of a punch withheld--rather than the empty force of a punch already thrown.

Moreover, if we are to decide now, in the absence of successful negotiations on reductions, neither we nor the Russians will have much guidance as to what to buy. Consequently, billions of dollars may be wasted. In short, we would like to have both sides stop and think and negotiate the reductions they have proposed (or some other limits) without premature further deployment.

Incidentally, we recognize that your Administration will be reluctant to do this. It has viewed the MIRVed and medium-size MX as a response to earlier Soviet procurement of Soviet MIRVed missiles that were medium or heavy in size and not as a counter to the Soviet new ICBM. In fact, however, if our Commission were forced to make a decision now, we might well recommend a small, single war-headed missile rather than MX. Accordingly, if our advice were taken, the one-new ICBM built by the U.S. might not be filling this matching purpose anyway. Moreover, some of us have strong doubts whether the body politic will support MX in any basing method. We may have no choice but to trade this waning asset off against Soviet procurement much as in 1972 America traded off a discredited ABM for an ABM agreement.

But whether or not we go forward with MX, or a new small ICBM in separated cheap silos, or whatever, we cannot guarantee the survival of any particular fraction of our land-based missile force in the absence of any limits on the Soviet strategic force. While we can, at the cost of tens of billions of dollars for new missiles, add uncertainties, and change the trade-off ratios, there is no land-based missile deployment scheme of which we know that remains secure no matter what the Soviet Union builds. Ultimately, we need a negotiated solution with the Soviet Union; it can have either more arms control or less. But there has to be some, if land-based missiles are to be kept in business by the standard of analysis used in the Defense Department.

Therefore, our main recommendation to the Administration, at this stage, is to inquire whether you might instruct our negotiators to determine whether such a moratorium on new ICBMs could be achieved.

If no agreement can be reached promptly, then we should like to be reconvened to consider the issue in the light of the Soviet unwillingness to accep* our suggestion.

Finally, in this classified memorandum, we feel impelled to point out that the Soviet Union is ready to move forward with no less than four ICBMs and has the geography, and the freedom from political restraints, to deploy more ICBMs more quickly and easily than we. A contest in ICBM procurement and deployment is not one that we should lightly cultivate. Indeed, if no "negotiator's pause" can be achieved in ICBM procurement, our Commission might well recommend less U.S. emphasis on (vulnerable) ICBMs in response to more Soviet emphasis on (vulnerable) ICBMs. U.S. agility and access to the oceans might become the solution to Soviet excesses in ICBMs.

FREEZE SALT II & SHRINK

Finally, I should like the Commission's records to include what we consider to be the most promising method of resolving instability through reductions so as to lend force to the above recommendation that this might, in fact, be possible.

As General Scowcroft will recall, I proposed to the General Advisory Committee on Arms Control and Disarmament, in November, 1978, that each side might apply percentage reductions to its overall strategic force limits of 2250 while maintaining the limits on modernization in the SALT II agreement. In effect, the notion would be to shrink all the limits and sublimits of SALT II by a given percentage.

As noted above, President Carter made precisely that proposal to Leonid Brezhnev. In particular, this proposal has been throughly studied by the Department of Defense and a classified study exists discussing it.

Moreover, this approach was endorsed, unanimously (repeat, unanimously) by the entire Foreign Relations Committee of the U.S. Senate in the McGovern-Chafee resolution of November, 1979 which proposed:

> "At the earliest possible moment during the SALT III negotiations, on the basis of mutuality, to pursue continuous year-by-year reductions in the ceilings and subceilings under the Treaty so as to take advantage of the treaty already negotiated and to begin a sustainable and effective process of reductions in strategic arms which promotes strategic equivalence under conditions of strategic stability."

The charts at my right show what happens when the SALT II limits are reduced from:

300	820	1200	1320	2250
heavy missiles	land-mirved	land & sea mirv	land & sea mirv & bombers with cruise missiles	overall strategic delivery vehicles

to a 50% cut level of:

150	410	600	660	1125	respectively.

In the first place, note that these limits permit each side--if it so wished--to put every last strategic delivery vehicle to sea; as a consequence, in particular, each side is permitted to reduce its emphasis on land-based missiles as much as it wants.

On the Soviet side, by coincidence, much which is the goal of the Reagan plan would be achieved. The Soviet Union would end up with 150 bombers and 975 missiles on land and sea--this is quite close to the 850 missile launcher goal of the Reagan START plan. There would be equal numbers of overall strategic delivery vehicles (1125) and could be equal numbers also of both missiles (at 975) and bombers (at 150) if the United States wished to retain only 150 heavy bombers.

The overall number of warheads permitted the Soviets on land and sea-based missiles would be 5,000 or less--precisely what was desired by the Reagan START plan*

And the number of warheads on Soviet land-based missiles drops 2/3rds of the way from the present 5,500 warheads to the 2,500 desired by the Reagan Administration--which is to say to 3,500.

In short, the Reagan START plan is well approximated by shrinking

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*I deduce this by noting that the retention of 150 heavies (the most permitted) leaves room only for 260 more land-based MIRVed missiles and assume the SS-19 (with six warheads). Sea-based missiles with eight warheads might fill the remaining quota of 190 more MIRVed missiles (so as to meet the quota of 600). I assume in these calculations, that sea-based limits are dropped from 14 to about 8 and that, on the Soviet side, no new missile is permitted, or occurs, with ten warheads. This is, of course, part of the no-one-new type of ICBM agreement argued above.

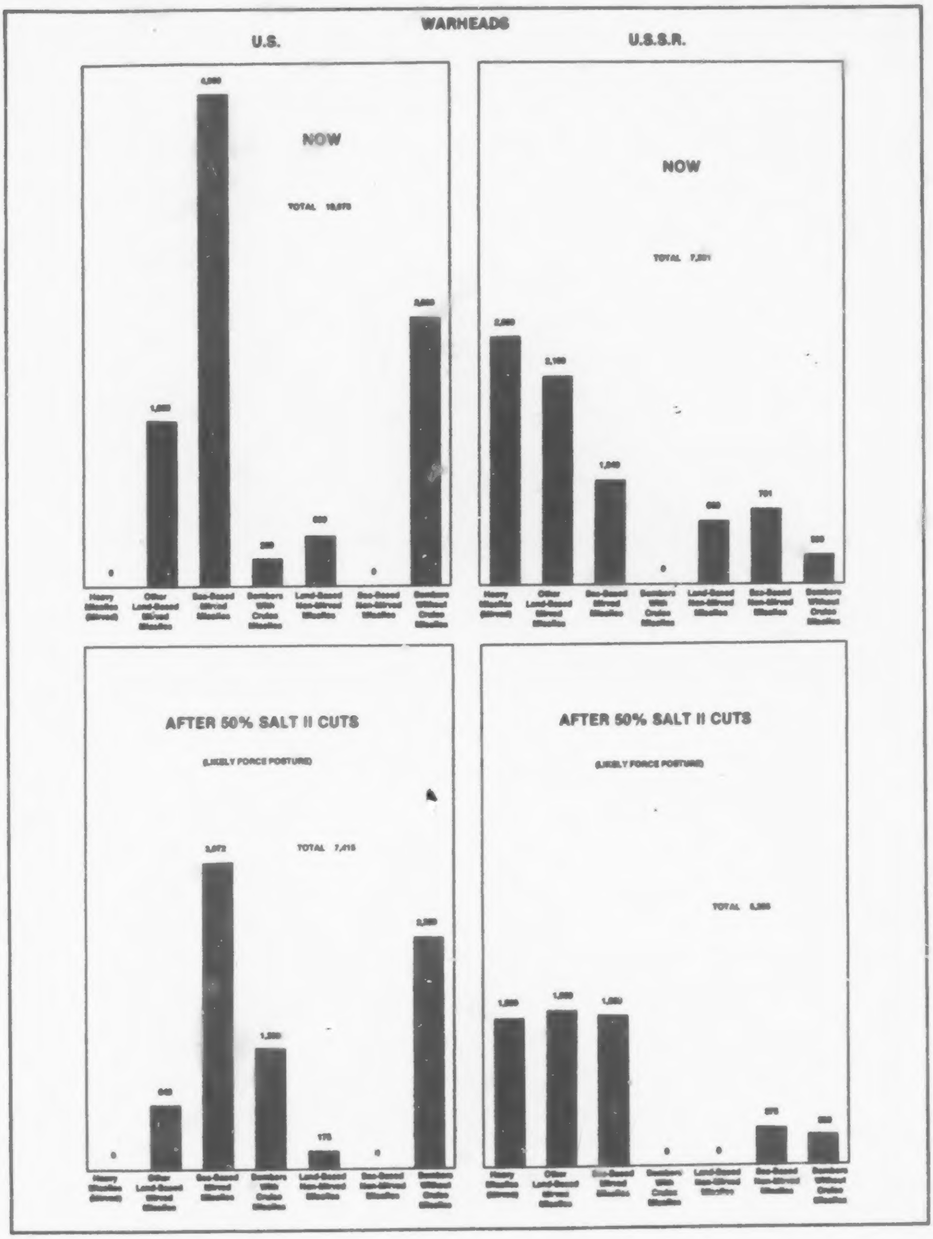
SALT II by 50%. As one State Department analyst opined, shrinking SALT II gives you "80% of the START in about one-third of the negotiating time."

Meanwhile, as these charts show, the U.S. might well retain:

192 missiles on 8 Trident submarines	1536 warheads
192 missiles on 12 Poseidon submarines	1536 warheads
216 Minuteman III missiles with three warheads each	648 warheads
175 Minuteman II missiles with one warhead each	175 warheads
60 Bombers with cruise missiles each	1200 warheads
290 Bombers with eight bombs each	2320 bombs

5,095 missile warheads plus 2320 bombs = 7,415 weapons

In short, this is about a 25% cut in our overall warheads. But it leaves us with 10 to 15 submarines on alert at all times, carrying in excess of 1,500 warheads. We have about 400 missiles on land--and could trade in more bombers for land-based missiles if we wished. This is enough to complicate the attack of anyone wishing to attack all arms of our deterrent. But it reduces the "exposure" of our land-based force (about 800 warheads) to the exposure we would have also with submarines in port (five such submarines would carry 766 warheads). In short, there would be no special issue of land-based missile vulnerability, for numerologists, anyway; and the cost to the Soviets of knocking off land-based missiles would exceed that of destroying submarines in port which would carry a comparable number of warheads.


WARHEADS
U.S.
U.S.S.R.
NOW
TOTAL
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2,100
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AFTER 50% SALT II CUTS
(LIKELY FORCE POSTURE)
TOTAL
3,072
1,200
175
0
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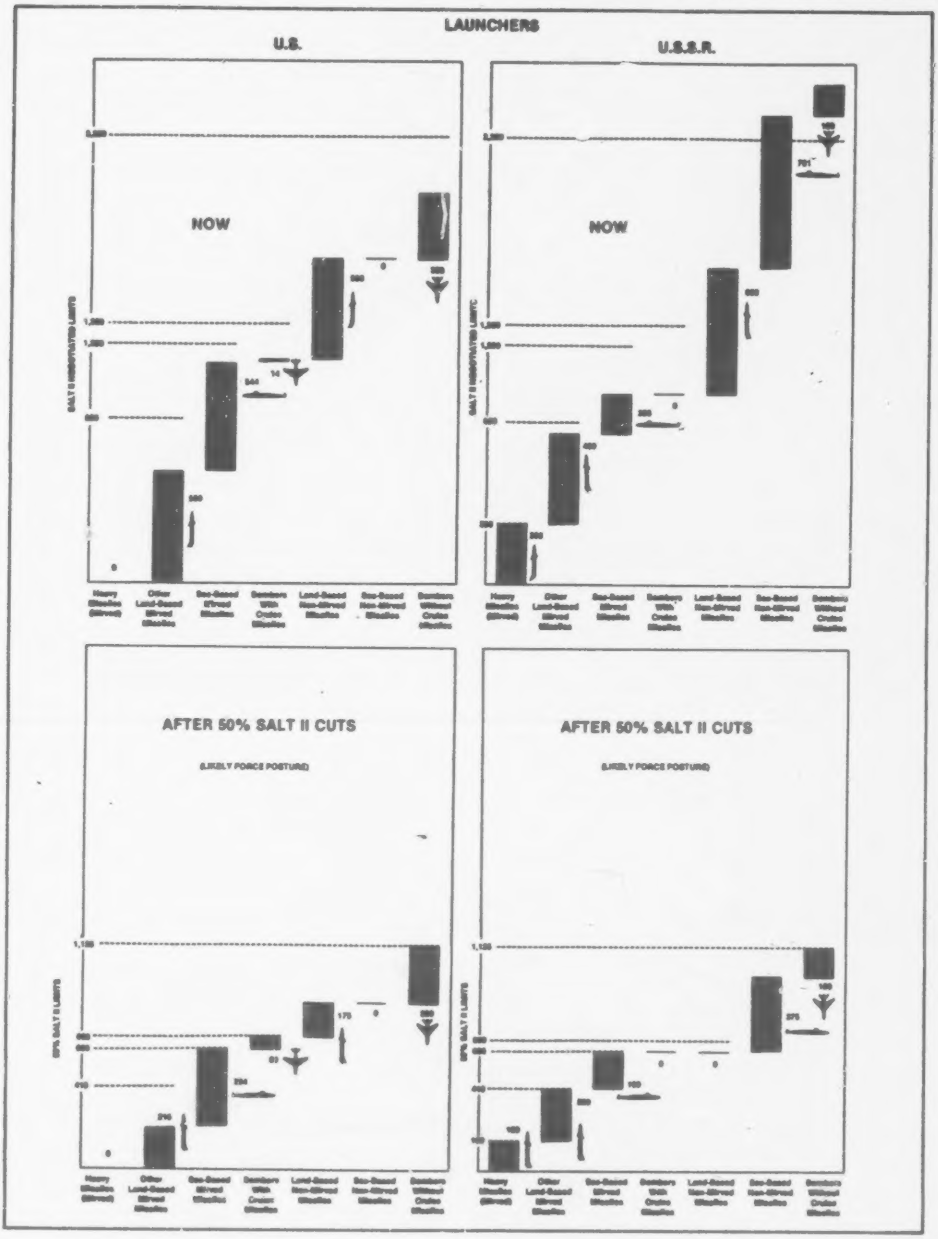
AFTER 50% SALT II CUTS
(LIKELY FORCE POSTURE)
TOTAL
0
0
Heavy Missiles (Mirved)
Other Land-Based Mirved Missiles
Sea-Based Mirved Missiles
Bombers With Cruise Missiles
Land-Based Non-Mirved Missiles
Sea-Based Non-Mirved Missiles
Bombers Without Cruise Missiles

From the Public Interest Report of January 1983



ABSTRACT

The U.S. should inquire of the Soviet Union whether it would agree to a bilateral halt in the flight testing of the one-new ICBM permitted by SALT II. Such a bilateral pause would permit both sides to negotiate an arms control environment in which each could decide what kind of ICBM survivability was both possible and needed. In the absence of such an environment, no lasting judgments can be made on these points. In particular, the Option "B" recommended here of Bilateral pause, Barter and (only then) Build--would make possible a costless solution to ICBM "vulnerability" through bilateral reductions, and, in particular, through simply shrinking SALT II limits.

In the absence of such a pause--and if instead the likely plans of each side are pursued--the SALT II regime will be threatened and the prospects for improving on it vastly diminished. There is no military or strategic urgency associated with new ICBM deployment that mandates such arms race costs. On the contrary, in the then likely ICBM race, the U.S. will continue to be outgunned--and at great economic cost. ICBMs represent entirely the wrong arena in which to compete with the Soviet Union.

The U.S. is redoubling its efforts to deploy a new ICBM while losing sight of its real goals. This Commission of military and strategic experts ought not recommend ICBM deployments that it does not consider militarily crucial simply because the Administration considers MX deployment to be an international political necessity. On the contrary, the Commission should voice the view that we all know in our hearts to be true: viz. that in the absence of an arms control context, the problem of ICBM vulnerability assigned to the Commission cannot be effectively solved.

We urge the Commission to include Option B among the options sent to the President.

SUMMARY OF STRUCTURE OF PROPOSED ARMS CONTROL OPTION "B"

	WHAT	WHY
BILATERAL PAUSE	Flight tests of one-new ICBM permitted under SALT II	Maintain bargaining leverage rather than lose it; Buy time to establish arms control context of decision; Buy time for development of light ICBM which is not now ready for flight testing
BARTER	START reduction plan versus Soviet reduction plan (likely outcome: "Shrink" SALT II via percentage reductions)	Resolve ICBM vulnerability problem through bilateral selective dismantlement and lowered emphasis on ICBMs within strategic forces
BUILD	MX, light ICBM or no new ICBM depending on outcome of first two stages of negotiation	

JEREMY J. STONE
January 31, 1983

MR. SCOWCROFT'S MX MOUSE

The President's Commission on Strategic Forces seems ready to recommend, finally, how to base the MX, that Flying Dutchman of a new American missile: in strengthened versions of the silos that now house Minuteman missiles. That solution may support Mr. Reagan''s determination to ram the MX through Congress, but it makes a mockery of the case on which the MX was built.

The President set up the commission, under Brent Scowcroft, after Congress rejected Dense Pack, the latest of many different basing modes considered for the MX. The commission was given the opportunity to step free of past dogma and find a fresh approach. Having interviewed a mountain of witnesses, it has labored mightily—and now seems likely to produce a mouse.

The reason for building MX was to counter the alleged vulnerability of the land-based Minuteman force by making a mobile missile. For the Commission to recommend that MX be put in the same silos whose vulnerability provided its rationale is to stand reason on its head.

The Air Force claims the silos can be strengthened. But no amount of strengthening can alter the fact that a vulnerable missile, carrying 10 warheads capable of destroying Soviet silos, would be a prime target. And accurate new Soviet missiles can create craters that will defeat any amount of hardening. The 100 or so MX's the Scowcroft Commission is expected to recommend are too few to threaten decisively the Russians' land-based missile force but enough to encourage them to make their missiles mobile. That would set in motion a vast redeployment of land-based missiles on both sides. During the decade it might take to complete such a project, the chances of reaching agreements on limitations would be substantially reduced.

The only prudent way for the United States to protect its land-based strategic missiles is by reducing the number of Soviet missiles that threaten them: in other words by arms control. A decision to deploy the MX outside the context of arms control would be an invitation to a new arms race in land-based missiles.

Some critics of the MX call for "de-MIRVing," that is, replacing multiple-warheaded missiles, which are tempting targets, with smaller, single-warhead missiles. But this promising "Midgetman" concept cannot even be tested if the MX is deployed. The SALT II framework allows each side to flight-test only one new land-based missile.

Instead of recommending any deployment of MX, let alone into Minuteman holes, the Scowcroft Commission would have done better to urge a moratorium on the flight-testing of new land-based missiles by both sides. That would allow more time, among other things, for negotiating the reductions that both sides have proposed. If such negotiations prove unsatisfactory, testing MX or a better alternative could begin with little lost.

What irony. The Administration, which set out to praise the MX, ends up by proposing a makeshift burial instead. What is required now is a decent interment; that will have to come from Congress.

Senator WARNER. What is your view with respect to the efforts thus far made by the administration in the area of arms control?

Dr. STONE. I regret to say, I do not believe any of the efforts made thus far have been serious. I believe that the zero option was proposed under the pressure of the European peace movement and was proposed precisely because it would not be acceptable.

I believe the START proposals, with the side conditions recently revealed, are clearly a nonstarter from the Russians' point of view, and of course, they are inconsistent with the Commission's conclusions. As Senator Nunn pointed out the other day, we are changing our proposals so rapidly that the Russians are not going to take them seriously.

I think the proposal for space wars was an undermining of the ABM Treaty and truly alarmed the Russians about whether we are serious about arms control at all.

Senator WARNER. But do you feel that the Soviets have come forward with any concrete proposals?

Dr. STONE. Well, yes indeed. Mr. Chairman, I am surprised that so many of the people testifying so far have talked about the importance of bringing the Soviet Union to the bargaining table. As I understand it, the Soviet Union has proposed a 25-percent reduction of strategic weapons, though the details of this have not been released, but they are certainly at the bargaining table, and they are even proposing reductions.

They have also said they are for the freeze, and in the statement in my testimony about hard-target kill capability they have said that they are willing to stop any weapons system in effect for a weapons system here.

I believe they are taking arms control more seriously than we are at this moment.

Senator WARNER. Senator Nunn?

SOVIET HARD-TARGET KILL CAPABILITY

Senator NUNN. What do you think about the Soviets' hard-target kill capability they already have? As I understand your proposal, and I find it intriguing, you are talking about refraining from going to a sea-based counterforce on both sides.

Dr. STONE. Yes, sir.

Senator NUNN. And you are saying that we would refrain from going ahead with our own land-based counterforce on our side, the MX.

Dr. STONE. Not exactly. I am proposing that both sides stop sea-based counterforce, so as to keep the windows of vulnerability closed on both sides. Then neither side would need more hard-target kill capability or more ICBM's to go mobile, and both sides could stop, as a corollary to that, all new types of ICBM's.

So in effect I am saying, stop the new types of SLBM's and you will not need to have new types of ICBM's.

Senator NUNN. Would that not leave them, though, with a significant advantage in terms of hard-target kill capability, prompt hard-target kill capability? We would not have that in any of our components and they would have it in their land-based missiles that are already deployed.

Dr. STONE. It is true that they would have an imbalance, Senator Nunn, but what the Commission concluded was that this imbalance did not matter strategically because it would not be strategically sensible for them to attack our ICBM's unless they could attack our bombers also with simultaneity of attack and little warning.

And so I would argue that prompt hard-target kill capability is not relevant to strategic planning in the large if the window of vulnerability is closed, as the Commission argued. And of course, we will be having hard-target kill capability on cruise missiles and bombers, as you know, and I think the value of promptness can be much exaggerated.

Senator NUNN. Well, former Secretary Schlesinger makes the argument that there is a relationship between the MX, even if it is vulnerable, or any hard-target kill capability and our whole linkage to Europe, the question of what we would do if the Soviet Union, for instance, were to start a conventional war and follow it with SS-20's.

Let us assume for a moment we do not get the intermediate nuclear forces, that those hard target kill missiles are necessary to link with the European conventional and theater defenses. What do you say to that?

Dr. STONE. Thank you, Senator. I am very glad you asked that, because I am really amused by Secretary Schlesinger's comment. He is arguing on the one hand that the Russians are not so crazy as to attack our land-based missiles without being able to attack the bombers, too, saying that we have a closed window of vulnerability here.

But he is arguing that the Russians are supposed to be persuaded that if they launch a war in Europe we would be so crazy as to attack with our missiles their ICBM's, when we also are unable to attack their ICBM's and bombers simultaneously.

I conclude, Senator Nunn, that if the window of vulnerability is closed here then it is closed there. And we cannot continue to argue that we can demolish them with an ICBM attack if we consider it strategically insensible that they should do the same to us.

Senator NUNN. Do you see any real merit in beginning an arms control kind of effort as to where our submarines are located, so that we would seek some sort of mutual agreement to keep subs farther away from the shores of both countries, therefore giving more warning time with submarines?

Dr. STONE. Well, on the basis of the 20 years that I have been involved in this business, that would not be a sufficiently tangible restraint to prevent the fears that I think will arise in the nineties if the capability to destroy bombers and ICBM's simultaneously does exist.

Senator NUNN. Do you mean if you develop the hard target kill, that limitation of positioning would not——

Dr. STONE. That is right, because people would say, look, what we are worrying about is a world war. In a world war all bets will be off. If the capability is there, they start to line up those submarines off our shores, what exactly are we going to do?

Senator NUNN. Well, I suspect we would have our bombers take off.

Dr. STONE. Well, you know, the way other wars have started in the past——

Senator NUNN. That would be a pretty heavy signal that we ought to take all the steps necessary to let those bombers escape, would it not?

Dr. STONE. Well, Senator Nunn, my reading of past wars and this same problem is that the enemy normally starts to position more and more forces over long periods of times, months or years, on the borders of the other country, until it becomes a rather accepted stationary deployment. And then, after it becomes accepted, they are in a better position to start that war.

I do not think we could prevent the Soviet Union from stationing five *Typhoon* submarines off our coast. That would be enough warheads to demolish the ICBM force.

Senator NUNN. Well, I understand. But the idea would be to get some kind of agreement, and if that agreement were breached, then of course you would launch your bomber forces.

Dr. STONE. It is going to be very difficult to monitor the breaching, of course, of submarines, when submarines are under water. But in addition, the range on Soviet submarine forces is very great, and so they could be a long distance away and still fire, and the only gain we would get from that larger distance is a few minutes warning.

And so it seems to me again, if the capability is there both sides will become quite alarmed.

Senator NUNN. I am not saying—I am not using this as an alternative to your suggestion about limiting counterforce at sea. I am saying in addition to or whether we have that limitation or not, it seems to me that extra warning time could become more and more important in the future.

Dr. STONE. I think that if we get to a world where we have to depend on 2 or 3 minutes or marginal warning for the bombers to get off, I will also be alarmed. I mean, this is cutting things too fine.

Senator NUNN. Well, I would submit to you, we are already in that world.

NATIONAL SECURITY EMERGENCY

Dr. STONE. Then I would submit, Senator Nunn, we have got to stop it from getting even worse, and so I feel we are in a replay of everything I saw here in the Senate in 1969. The lust here to deploy Trident II—and MX, of course also—is so strong that it will overcome that intellectual lobe of our collective brain, that is telling us that in a few years, the Russians will match it and that, when they do, we will lose, as I said, our confidence in two arms of the deterrent rather than just one.

So this is really a national security emergency we are passing through now. Unless something is done to put a halt in the next few years on this hard target kill from land and sea, but especially sea, we are going to be in big trouble. So I would propose that we trade off our advantage in sea-based forces for their advantage in land-based forces. We know we are ahead in Trident II.

Senator NUNN. I think you would get a lot of agreement with that if you would broaden your definition of "advantage" that they have. You are using your definition of Soviet advantage on land, only what they may develop in the future, combined with at sea.

There are many people, including myself, that are already concerned about what they have got deployed there right now. So any kind of swap that you are talking about as far as I am concerned would have to include some scaling back of the SS–18's and SS–19's they have there now.

I think even if you could theoretically demonstrate exactly what your premise is here, you still have a very strong psychological factor when one side has prompt hard target kill already deployed and the other side is giving its up both at land and sea.

Dr. STONE. Well, I respect that, Senator Nunn, and I would say that what I have proposed is the smallest envelope of strategic restraints that would solve the problem as I see it. I do not deny that one side or the other might bargain harder and get further advantages as part of the package. I cannot predict what would happen in negotiations, but my conclusion is, if the sea-based counterforce is not stopped we are in trouble and if it is stopped we do not need more ICBM's.

So these two restraints, no new sea-based missiles and no new

ICBM's, is perhaps the smallest set of restraints that could contain what I see as this worldwide security emergency.

Senator WARNER. Senator Nunn, we have a time situation which I think you are quite familiar with.

Senator NUNN. That is partly my doing, Mr. Chairman.

Senator WARNER. That is all right. But I want to conduct this in a manner that is mutually agreeable.

Might I suggest we hear from the other two panelists and then each take our 10-minute period? Is that agreeable, Mr. Exon?

Senator EXON. If that is what we are going to do, that is fine with me.

Senator WARNER. Well, we are here to discuss a procedure that is mutually agreeable.

Senator EXON. I have many questions, Mr. Chairman.

Senator WARNER. Mr. Bingaman?

Senator BINGAMAN. That is fine, Mr. Chairman.

Senator WARNER. Then, Dr. Scoville, we will now hear from you.

STATEMENT OF DR. HERBERT SCOVILLE, JR., ARMS CONTROL ASSOCIATION

Dr. SCOVILLE. Mr. Chairman and members of the committee, I appreciate very much the invitation to testify before you on this important matter of the Scowcroft Commission's report. I should just like to point out that I am testifying in a personal capacity and not for any of the many organizations with which I am associated.

With all due respect for General Scowcroft and his distinguished Presidential Commission, I believe they tried valiantly to develop some reasons for procuring the MX missile system, but, not unexpectedly, they failed totally. I think they were given an impossible task, which was to justify the continuance of the MX program, and when they could not find any security rationale for this, they had to fall back on a political compromise. Basically, the Commission could not make a silk purse out of a sow's ear, or a time bomb into a harmless alarm clock.

The Commission report has many good and useful observations, but it certainly does not justify the MX missile system. The Congress has repeatedly refused to fund the basing of the MX missiles in existing Minuteman silos, and I could find nothing in this report to warrant the Congress changing its mind on this particular issue.

I think what Senator Tower, who is the chairman of the parent committee, said in 1981 holds equally true today, when he said: "By stuffing the MX's into fixed silos we are creating just so many more sitting ducks for the Russians to shoot at."

WINDOW OF VULNERABILITY

I think one of the most significant things that the Scowcroft Commission has dealt with is the so-called window of vulnerability. I personally have never felt that the window of vulnerability existed today, and I think they make a convincing argument as to why it does not.

They do not say that the individual missile silos, the Minuteman silos, are not vulnerable, but what they do point out is that there is really no incentive for the Soviets to attack those silos and the Minuteman missiles in them; they then apply that to the MX in these silos.

I think they are quite right that there is no incentive to attack the Minuteman silos at the present time. The chances of their being able to wipe them all out are very low; second, they would know that the risks of such an attack are very great, because it would only improve our capability to retaliate with the airborne leg of our strategic triad—it would also give us an incentive to launch our submarine missiles. They could never count on the fact that we would not use them.

On the other hand, 100 MX's in these silos are a much more vulnerable target since it is relatively easy to knock out 100 missiles. And in addition to that, the MX missile system because of its threatening nature is a much more tempting target than are the existing Minuteman missiles.

And that gets me to what I think is probably a fundamental inconsistency in the Scowcroft Commission report. They make a very strong pitch for the need for stability in strategic forces. This is the most important characteristic of the overall strategic forces we have today. Yet they ignore completely the fact that the deployment of the 100 MX missiles in existing Minuteman silos only creates instability.

They seem to ignore the fact that the MX missile will not do the job which has been prescribed for it by the President of the United States. President Reagan in October 1981 said we must have the MX missile on a high priority basis, because we want a threat to the Soviet ICBM force. The MX missile will not be a threat to the Soviet ICBM force unless it is used in a first strike. In other words, being a first-strike weapon, it creates instability.

MX CREATES INSTABILITY

If we wait to use it in a second strike and the missile silos are vulnerable, then there will not be any or only a few MX missiles left for the second strike. If it turns out that they are really not vulnerable or for some reason the Soviet Union does not attack them in their first strike—and I must admit it is a little hard for me to visualize that kind of a situation—but even if there were a significant number of MX missiles surviving a Soviet first strike, there will be no way in which those missiles can destroy Soviet ICBM's.

They could be quite effective at destroying some left-over Soviet missile silos, but there will not be any ICBM's in them. The missiles will either have been launched in the Soviets' first strike—certainly, we can't be naive enough to hope that the Soviet Union, after having launched a first strike, will sit quietly by and let the United States with its MX missile warheads destroy the remaining ICBM's they have kept over.

They will certainly launch every single ICBM that they can get off the ground, at every target they can find in the United States, as soon as their warning systems tell them that we have launched our second strike.

So the MX missile is not something that improves our security by threatening Soviet ICBM's. It is only a first strike weapon. That is, in my view, destabilizing because it can lead either for the Soviets to go in peacetime to a launch-on-warning posture, which makes the risk of accidential nuclear war go up by a very significant factor, or else to prepare to launch a preemptive strike, in other words beat us to the punch, in a time of crisis.

It is a destabilizing weapons system and therefore is totally contradictory to the fundamental basic strategic policy for which the Scowcroft Commission is pushing. Now, not being able to find any military justification for the MX missile system, the Scowcroft Commission comes forth with essentially three political justifications to go ahead with the MX missile:

One, to match the Soviets, who have missiles with similar characteristics;

Two, to demonstrate our seriousness when we announced many years ago that we would build a new ICBM system;

And, three, to pressure the Soviets into scrapping their countersilo ICBM forces in some arms controls agreement.

In my view, none of these political justifications warrant going ahead with the MX in light of the danger it presents to our security. Soviet leaders, in fact the entire world, will be more impressed by our seriousness, our national will, and our cohesion by realistic negotiations to limit nuclear weapons rather than by the procurement of new weapons systems which make nuclear war more likely.

Matching the Soviet Union with countersilo ICBM's, which only provides a target that could tempt the Soviets to actually use their missiles against us, is a mindless way to demonstrate our strength. Instead of bemoaning the decision not to deploy a new ICBM as a sign of weakness, we should be advertising the Soviet concentration on potentially vulnerable ICBM's as a weakness on their part. We should be extolling the survivability of our overall strategic deterrent and use this as an inducement for the Soviet Union to move to a more survivable strategic force structure and away from the concentration of land-based ICBM's.

And finally, buying new, dangerous weapons for arms control as bargaining chips we do not propose to give up is not a prescription for getting the Soviets to exercise restraint. If we proceed with the MX, there is not a chance in the world that the Soviets will not procure the new large MIRV'd ICBM which they have just begun testing.

In conclusion, I think I would like to make the following recommendations:

First, I would support the Scowcroft Commission's recommendation to study the single-warhead ICBM system. I believe that this concept of a non-MIRV'd ICBM is stabilizing and worth investigating very carefully. On the other hand, I think it is far too early to make any decision whether we should go ahead with such a system. There are many pros and cons, and that can only be decided on at a later time.

MINUTEMAN MISSILES

I think there is no reason for making a package out of going ahead and studying the single-warhead ICBM and with going ahead and deploying the 100 MX missiles. The existing Minuteman missiles, 1,000 of them, are more survivable than 100 MX's will be in the Minuteman silos, and they are plenty good enough to provide the land-based leg of the deterrent until we can see whether it is worthwhile going ahead with the so-called Midgetman system.

And in fact, for those who are really interested in this concept of the Midgetman system, I think that combining it with the MX deployment program as recommended by the Commission is only a way to slow down the Midgetman program, because it will certainly, by having two programs going on simultaneously, it will divert effort from it.

Furthermore, you will have all of the destabilizing consequences of having the MX deployed, even though there are only 100 in the program, because there is no way that anybody is going to know, and the Soviets certainly cannot plan on knowing, that we would not go beyond the 100 that is now in the program.

They would prudently just have to assume that we are going on to have more than 100, so the fact that we only have 100 in the present program, does not mean that the Soviets will not look at this as a first strike weapons system.

SMALL SUBMARINES

I should also like to support the recommendation of the Scowcroft Commission about small submarines. I have for a long time felt it was very important that the United States have some alternative to the very large Trident submarines for the sea-based leg of our strategic deterrent. By putting so many missiles in a single submarine as we do in Trident and having such an expensive submarine, we in the long run will end up with a relatively small number of seaborne platforms.

This in the long run will make the seaborne leg of our strategic deterrent more vulnerable. I think their recommendation that we go ahead and do the research on a smaller submarine carrying a smaller number of weapons and being less expensive than the Trident is a very sound recommendation and one which I would hope that the Senate of the United States would pick up, because I think we are very vulnerable without such a program in our defense package.

But finally I cannot endorse and I believe it is very wrong to go ahead with the 100 MX missile program that they propose, putting these in the Minuteman silos. I think this is a dangerous program and one which, in the long run, can decrease our security and make it more likely that we will all be destroyed in a nuclear catastrophe.

Thank you.

[The prepared statement of Dr. Scoville follows:]

PREPARED TESTIMONY BY DR. HERBERT SCOVILLE, JR.

Mr. Chairman, Members of the Committee, I appreciate very much your invitation to testify before this Committee on the Report of the President's Commission on Strategic Forces, which President Reagan has now approved, and to give my views on the MX missile system. The question of the future of the MX and whether the Congress should continue to fund this system is one of the most important issues facing the Congress today. It was this importance that prompted me to write a book on this subject "MX: Prescription for Disaster" published by the MIT Press. I should like to emphasize that I am testifying today as a private individual and not for any organization with which I am associated.

With all due respect for General Scowcroft and his distinguished Presidential Commission on Strategic Forces, I believe they tried valiantly to develop some reasons for procuring the MX missile system but not unexpectedly they failed totally. They were given an impossible task—to justify continuance of the MX program—and finding no security rationale they fell back on political compromise in hope that it just might make the MX acceptable to a majority of the Congress.

But the Commission couldn't make a silk purse out of a sow's ear—or a time bomb into a harmless alarm clock. The Commission report has many good and useful observations but justify the MX missile system it certainly does not. The Congress has repeatedly refused to fund the basing of the MX missiles in existing Minuteman silos, and there is nothing in the report to warrant it changing its mind. The United States is a strong and wise enough nation not to have to demonstrate its seriousness to protect itself by spending tens of billions of dollars on a weapons system which only makes nuclear war more likely. It doesn't have to match the Soviet Union weapon for weapon when by so doing it reduces its security. It doesn't have to buy an unplayable but suicidal bargaining chip in order to induce the Soviets not to commit suicide in turn. Yet these are almost the only excuses for continuing the MX program.

Perhaps the most striking feature of the Scowcroft report is the recognition that there is no way in which to deploy the MX missile so that it would be assuredly invulnerable to a Soviet attack. All of the approximately 30 methods that have been proposed in the past for deploying the MX, including the dispersion of 200 missiles in 4600 multiple protective shelters over thousands of square miles of Utah and Nevada and the Dense Pack approach of concentrating 100 missiles in 10 to 15 square miles in Wyoming, are discarded. The Commission gives up on any pretense of an invulnerable basing mode and returns to placing the 100 missiles in existing Minuteman silos. Quite correctly in my view it does not even recommend additional hardening of these silos since this would only involve a greater expenditure of money without any added invulnerability for the MX.

In order to justify deploying the missiles in these theoretically vulnerable silos the Commission now proclaims that the Soviets would still be deterred from launching an attack against the land-based missiles, since any attack against the ICBMs would only provide warning to allow more of the alert bomber leg of the strategic deterrent triad to get off the ground. Were the Soviets to attack the bombers first with depressed trajectory submarine-launched ballisic missiles, then the Soviets would have to plan on the land-based ICBMs being launched after an attack—not launch-on-warning. This complementary nature of the land-based and airborne legs of the deterrent triad has been recognized for a long time, but far too often ignored by those raising alarm about the survivability of the US deterrent. Furthermore, the Scowcroft report quite correctly points out that the United States has a very survivable submarine based third leg of the strategic deterrent so that the Soviet Union could have no incentive to launch an attack against the land-based missiles knowing that the submarine missiles were available for retaliation against most military as well as civilian targets.

I personally strongly support, and have for a long time endorsed this fundamental conclusion of the Scowcroft Commission. There has never been a true "window of vulnerability" for our strategic deterrent as a whole, and the scenario that the Soviets would attack our ICBMs on the chance that we would not retaliate has always been totally unrealistic. No longer can this argument be used to justify crash programs for new weapons systems at the cost of hundreds of billions of dollars, nor can it be used to discard a mutual freeze as a sound first step toward controlling nuclear weapons.

Before leaving the discussion of the recommendations on the basing of the MX a few points should, however, be made. First 100 MX missiles in Minuteman silos are much more vulnerable to a Soviet first strike than are 1000 Minuteman. The operational problems in destroying 1000 missiles in a carefully timed surprise attack are much greater than in destroying only 100 all located in the same general area of Wyoming and Nebraska. The uncertain reliability of the Soviet missiles and the problems of timing the larger scale attack at many different locations around the United States would make the success of an attack on the Minuteman much more questionable than one against the MX missiles.

Furthermore, the MX missile system is specifically designed to be a threat to the Soviet ICBM deterrent so that it is a much more tempting target than the Minuteman. The Scowcroft conclusion that the Soviet would not risk an attack against our land-based missiles is much more valid for the existing Minuteman system than it would be for the future MX deployment. They would be under much greater pressure to launch an attack against the MX in a time of crisis. Thus the survivability of the proposed MX system is much more in doubt than is that of the existing Minuteman force.

This gets me to the MX missile itself as opposed to its basing system. The deployment of the MX is justified by the Commission on political rather than military grounds. The basic arguments are that we must have it (a) to match the Soviets who have missiles with similar characteristics; (b) to demonstrate our seriousness when we announced many years ago that we would build a new ICBM system; and (c) to pressure the Soviets into scrapping their countersilo ICBM forces in some arms control agreement. I shall address these political justifications later.

President Reagan when he announced his new strategic program in October, 1981, justified high priority for the MX on the need for a prompt threat to the Soviet ICBM force. Although the Administration and General Scowcroft have claimed that this would be a retaliatory threat, one cannot escape the conclusion that the MX would only be effective in destroying Soviet ICBMs if it is used in a first strike. If the Soviets launched a first strike attack against the MX missiles in the existing Minuteman silos, then a large part of the MX missile force would be destroyed and unavailable for retaliation. The Administration has continuously claimed that the Soviet Union now has deployed SS–19 and 18 missiles whose warheads have the accuracy and yield to give each a high probability of destroying a Minuteman silo. The Scowcroft Commission does not make any claims that this vulnerability is non-existent, only that the Soviets would not attack the missiles because the other legs of our strategic tried would deter them.

However, even if an appreciable part of our MX missile force were to survive or if for some reason the Soviets chose not to attack them in their first strike—hard to believe in light of the announced MX objective of threatening Soviet ICBMs—the MX missiles would still not destroy Soviet ICBMs. In a second strike they would only destroy empty silos. Either the Soviet ICBMs would have been launched in their first strike or any remaining missiles would be launched as soon as their warning systems told them that our retaliation was underway. A second strike threat to Soviet ICBMs is only a prescription for the Soviet Union to launch every missile it can get off the ground at every target it can find in the United States. Certainly such a weapons system does not improve our security.

Even in advance of an actual conflict the deployment of the MX will make us less safe. The Soviet reaction to its deployment can take two forms, both of which increase the risk of nuclear war. In peacetime they can put their weapons on hair-trigger alert—launch-on-warning; this would protect their missiles but increase the likelihood of a nuclear catastrophe by accident. The MX deployment can also give them incentives to launch a preemptive strike—beat us to the punch—in a crisis situation. Instead of being a deterrent to a Soviet attack, the MX creates a temptation for the Soviets to accept the risk of starting a nuclear war.

Thus there is no military justification for deploying the MX missile, and it can only increase the danger to the people of the United States and indeed the whole world. It is an invitation for both sides to adopt a "use it or lose it" strategy for their missiles. The Commission says that "stability should be primary objective" of the modernization of our strategic forces. Yet the MX is clearly only a prescription for greater instability.

But do the political justifications for the MX warrant this increased security risk? Clearly no.

Soviet leaders, and in fact the entire world, would be more impressed of our seriousness, our national will, and our cohesion by realistic negotiations to limit nuclear weapons rather than by the procurement of a new weapons system which makes nuclear war more likely.

Matching the Soviet Union with a countersilo ICBM, which only provides a target that could tempt the Soviets to actually use their missiles against us is a mindless way to demonstrate our strentgh. Instead of bemoaning the decision not to deploy a new ICBM as a sign of weakness, we should be advertising the Soviet concentration on potentially vulnerable ICBMs as a weakness on their part. We should be extolling the survivability of our overall strategic deterrent and use this as an inducement for the Soviet Union to move to a more survivable strategic force structure and away from a concentration on land-based ICBMs.

Buying new dangerous weapons for arms control as bargaining chips which we do not propose to give up is not a prescription for getting the Soviets to exercise restraint. If we proceed with the MX, there is not a chance in the world that the Soviets will not procure the new large MIRVed ICBM, which they have just begun testing.

The Scowcroft Commission tries to link the procurement of 100 MX missiles with the study of a small single warhead missile (Midgetman) as a longer term alternative. The concept of reliance on a single warhead as opposed to MIRVed missiles is basically a sound one since this would increase stability and reduce incentives for initiating a nuclear attack. However, as former Secretary of Defense Harold Brown has said it is still far too early to make any decision on whether to procure a new small missile. Certainly the large MX and the small Midgetman programs do not have to be treated as a package. We should stick by the existing Minuteman force which the Scowcroft Commission admits that the Soviets would have no incentive to attack, which is more survivable without the existence of the MX, and which does not provoke the Soviets into a preemptive strike or into the adoption of a launch-on-warning strategy.

Once a decision to deploy 100 MX missiles is made, no one can ever be sure that the program would stop at the 100 level. Soviet strategic planners would have to assume that it might continue beyond that point. All of the escalating effects of such deployment would come into play. General Scowcroft is thus misleading when he denies the MX would not be taken as a first strike system because 1,000 warheads on the 100 missiles would not threaten the entire Soviet ICBM force. He also ignores the existence of Minuteman III warheads with enhanced countersilo capabilities to supplement the MX. In addition, President Reagan in START is trying to persuade the Soviets to drastically cut the number of its ICBMs to the point where they would be vulnerable to the MX.

Finally, continuation of the extensive program to deploy the MX would almost inevitably divert resources needed to move to the more stable single warhead missile. It could only serve to delay such a new program were a decision made to go ahead with it. The costs in dollars placed on new strategic weapons would be very much greater. Those who favor the concept of the single warhead missile would be well advised to discard a package deal which calls for procurement of the MX.

The Commission report stresses the need for a concurrent effort to control strategic nuclear weapons and urges that attention be redirected toward limits on warheads. The SALT II Treaty did not ignore warheads since it put ceilings on the number of warheads each type of missile could carry, but nevertheless it would have been desirable had the controls been even tighter. The Commission quite correctly points out the weakness in President Reagan's START position which puts an upper ceiling on the number of missiles and thus rules out conversion to single warhead missiles. However, the report ignores that the deployment of the MX with 10 warheads per missile is also directly contrary to the Commission's concept that stability is increased if the ratio of missiles to warheads is increased. In fact the deployment of the MX missile would result in greater vulnerability for the United States land-based ICBM force, and probably the Soviet force as well, if the START ceiling of 2500 ICBM warheads were accepted. This is only another of the examples of inconsistency in the Commission's recommendations on the MX and President Reagan's approval of these.

In conclusion—

I believe that the Scowcroft Commission recommendation to deploy 100 MX missiles in existing Minuteman silos is unsound and can only result in a decrease in US security. Such deployment of the MX missile, which can only be viewed as a first strike weapon, is very destabilizing and runs counter to basic strategic policy goal of the Commission report. I urge the Congress not to provide any more funds for the MX and to stop that program entirely at this point.

I support the study of a single warhead ICBM system but believe it is far too early to make any decisions on its development, testing, and procurement.

I support the recommendation of the Commission to begin research now on smaller ballistic missile carrying submarines, each carrying fewer missiles than the Trident. The present total reliance on the large Trident submarine as the future replacement for Polaris/Poseidon leaves us potentially vulnerable to a shortage of submarine platforms for this critical leg of our strategic deterrent.

Senator WARNER. Thank you very much.

Dr. Kendall?

STATEMENT OF DR. HENRY KENDALL, CHAIRMAN OF THE UNION OF CONCERNED SCIENTISTS

Dr. KENDALL. I am Henry Kendall, the chairman of the Union of Concerned Scientists.

I appreciate the opportunity to testify before this committee. I have a brief statement to read and have prepared a more complete statement for the hearing record.

There are four conclusions in the Scowcroft Commission report with which my colleagues and I in the Union of Concerned Scientists are in agreement, and I would like to summarize them first because of their importance to my subsequent comments on the report's weaknesses:

First, the Commission stated that de-MIRV'ing strategic missiles would have a stabilizing effect on the nuclear arms race, if pursued as part of a powerful arms control regime.

Second, they acknowledged that the Soviets cannot effectively undertake a simultaneous attack on U.S. submarine ports, bomber base and ICBM's. This is a conclusion that many of us have long believed.

Third, they concluded that ICBM vulnerability is not a critical issue for the present and that each leg of the triad is reinforced by the capabilities of the triad as a whole.

And finally, they concluded that superhardening of silos is not now a practical objective.

With respect to our disagreement with the Commission's conclusions, we believe that:

First, the Soviet Union and the United States are in a position of rough parity or essential equivalence in nuclear arms. Perceptions of a Soviet advantage are very simply incorrect.

Second, the United States has no need of the prompt hard target kill potential offered by the MX missile. Indeed, this first strike potential is a most dangerous aspect of the missile, inviting preemptive attack in crisis circumstances and thus raising the chance of nuclear war.

Third, deployment of the MX as a possible first use weapon that can be used on the strategic level to deter conventional aggression or limit a nuclear attack is a dangerous, possibly suicidal strategy.

Fourth, the consequences of deploying the MX almost certainly will be destabilizing, particularly if the United States is induced to move to a launch on warning status or to deploy an ABM system to protect the MX, and if, as is surely possible, the Soviet Union itself moves toward launch on warning.

And finally, deployment of the MX in our view will not force the Soviets to negotiate on arms control, but simply will add additional vigor to the now already vigorous arms race.

FORCES COMPARABLE IN AGE

The Commission argues that our nuclear forces are older and have aged significantly, that the Soviets are ahead in ICBM's, are gaining in submarines, and that modernization of the ICBM force is necessary in order to retain the full capacity of the triad.

In fact, the United States and Soviet forces are of roughly comparable age. In some respects they have newer weapons, in some respects we do.

Our ICBM missiles are older, for example, but the warheads are about the same age as those of the Soviets. We have recently refitted 300 of the Minuteman III missiles with 900 of the new, more accurate Mark 12's, for example.

With respect to the submarine force, our submarines are indeed older, but our sea-launched missiles are considerably more modern. Last month Secretary of the Navy John Lehman testified that U.S. submarines would remain largely invulnerable throughout this century. In fact, he stated that the submarines were becoming less, rather than more, vulnerable.

I have spent some time in the past on one of my principal interests which has been assessing the consequences of nuclear war and the way nuclear weapons might be used in such a contest. And my conclusion—one shared by many of my colleagues—is that the U.S. triad is presently formidable. It is immensely powerful. Moreover it will retain for decades a great capacity for retaliation in the event of an attack on it.

In fact, there is far more than enough nuclear weaponry to satisfy this need, and the deterrent value is therefore more than adequate for the foreseeable future.

HARD TARGET STRIKE CAPABILITY

The Commission argues that the Soviets have a prompt hard target kill capability and we do not, that we need a similar one and should gain it with the MX.

This argument I believe is quite wrong. In fact, it would be dangerous to acquire such a capability. What I mean and what the Commission means here by "prompt" is the roughly 30-minute response time available with MX, as opposed to a "delayed" hard target kill capability, which one would achieve with the cruise missiles, which is response in a few hours.

The Commission stated that deterrence requires prompt ability to hit hard military targets, Soviet leaders in command bunkers, nuclear weapons, and other targets. We have that capacity now with a delay of a few hours.

It seems to me that we hardly need additional capacity to strike hard targets. We now have increasing numbers of cruise missiles, as well as the nuclear warheads in our powerful bomber force. No prompt hard target kill is needed, as Dr. Scoville has pointed out, in the U.S. arsenal, unless we are seeking a first strike capability, a capability that would be inconsistent with a force structure dedicated to deterrence.

But MX missiles in Minuteman silos will in fact have utility only if we plan to use them in a first strike. They are very valuable targets. They are placed in existing and vulnerable silos, and it is likely they would be largely destroyed in a Soviet first strike. To be effective they must be used before they are attacked.

One might argue that 100 MX missiles with their 1,000 warheads is insufficient to pose a confident first strike threat. But with that many deployed, with production lines open, it would be easy and attractive to military planners to proceed to a much larger force, and surely the Soviets could well conclude that. And this is the danger that could well accompany an initial deployment: the expansion to a full first strike force.

The problem we face today, the theoretical vulnerability of our land-based missiles, was spawned by the U.S. initiative in developing the present generation of MIRV'd missiles and the Soviet response to that initiative. We should not compound the mistake by building an even more threatening and therefore destabilizing system.

STRATEGIC NUCLEAR WEAPONS

Let me talk a little bit about the way these missiles might be used in the event of a conflict. The Commission states that we can and should have the capacity to employ strategic nuclear weapons in the event of a—presumably large—conventional attack on U.S. forces or U.S. allies. Indeed, the Commission says that it is desirable for the Soviets to believe we would use the full range of our nuclear arsenal in response to conventional conflict. And they further say that in fact we should be prepared to use them.

ICBM's are identified in the Commission report as especially effective in deterring Soviet threats of massive conventional attack because of their ability to respond promptly against military targets. It is implicit, but I believe clear, in the Commission report that the MX is the weapon of choice should deterrence of conventional war fail.

In view of the appalling consequences of an all-out nuclear exchange and the high probability that any nuclear exchange, particularly one involving the strategic forces, would escalate uncontrollably, there is no rational support for the first use of nuclear weapons.

LIMITED TACTICAL NUCLEAR WAR UNCONTROLLABLE

My colleagues and I in the Union of Concerned Scientists have recently completed a major study of U.S. and NATO first use doctrine. In this study, carried out under the direction of Vice Adm. John Lee, retired from the Navy, we concluded that the notion of the practicality of first use is false, that the first use of nuclear weapons would prove dangerous and suicidal, and that there is no basis for the presumption that nuclear war can confidently be limited or confined to a finite number of exchanges. Instead we believe the conflict would in fact escalate to an all-out war.

It is hard to believe that tactical nuclear war, in Europe or elsewhere, could be limited, and it is inconceivable that an intercontinental exchange, once begun, could be controlled. An MX launch, if deterrence failed against conventional war and which would represent first use of nuclear weapons, would virtually guarantee escalation to such an uncontrolled exchange. This would result in the total destruction of this country and the Soviet Union and, as new evidence now suggests, perhaps incalculable but massive damage to the biosphere.

There are major dangers that can develop if we do deploy the MX. Short of direct involvement in nuclear conflict, the first is that the U.S. ICBM's will be placed on a higher alert status, in part because of their valuable characteristics as a target for the Soviet Union and that this higher alert status could possibly include launch on warning, which we regard as particularly dangerous. Given the sensitive nature of the U.S. warning system and the frequent false alarms, launch on warning would be a very destabilizing and dangerous posture.

My colleagues and I do not share the Commission's view that the Commission's recommendations form an indivisible whole. We believe the recommendations should be viewed separately, each on its own merits. In particular, as I have noted, we concluded that the United States does not need the prompt hard target kill potential provided by the MX and also of the Trident D–5, and that it is dangerous to implement them.

However, we conclude it is appropriate to study the possible design of a new small ICBM, recognizing that it is only useful within a broad-ranging and effective array of arms control measures.

Finally, it seems to us that there is little hope that MX deployment would pressure the Soviets to negotiate. History does not suggest this, although it is expected by the Scowcroft Commission.

The Soviets are much more likely to respond to the MX deployment by augmenting and improving both their defensive and offensive weapons. Thus, instead of inducing the Soviets to negotiate on arms control, MX deployment could provoke further Soviet responses which would quicken the pace of the already vigorous nuclear arms race.

Thank you.

[The prepared statement of Dr. Kendall follows:]

PREPARED STATEMENT BY DR. HENRY W. KENDALL

RESPONSE TO SCOWCROFT COMMISSION REPORT

Good day. I am Henry W. Kendall, Chairman of the Union of Concerned Scientists (hereinafter UCS), a national organization of 100,000 scientists and citizens concerned about the threat of nuclear war. I appreciate the opportunity to testify before the Senate Armed Services Committee's Subcommittee on Strategic and Theater Nuclear Forces.

UCS has a number of disagreements with the Scowcroft Commission's report, the most important and serious of which I will address today. There are four Commission conclusions, with which UCS is in agreement, however. I would like to summarize them first, because of their importance to my subsequent comments on the report's weaknesses.

First, the Commission stated that de-MIRVing strategic missiles would have a stabilizing effect on the nuclear arms race, if pursued as part of an arms control regime. Second, they acknowledged that the Soviets cannot effectively undertake a simultaneous attack on U.S. submarine ports, bomber bases, and ICBMs, presently and probably through the remainder of the century. Third, they concluded that ICBM vulnerability is not a critical issue for the present, and that each leg of the Triad is reinforced by the capabilities of the Triad as a whole. Fourth, they concluded that superhardening of silos is not currently a practical objective.

We believe that the United States and the Soviet Union are in a position of rough parity or essential equivalence in nuclear arms. Perceptions of a Soviet advantage are, very simply, incorrect. The United States has no need for the prompt hard target kill potential offered by the MX missile. Indeed this first-strike potential is a most dangerous aspect of the missile, inviting preemptive attack in crisis circumstances, and thus increasing the likelihood of nuclear conflict. The unintended consequences of deploying the MX could be harmful to arms control, since the Soviet Union could refuse to negotiate, choosing instead to further improve the accuracy of its missiles. Last, deployment of the MX as a first-use weapon that can be used to deter conventional aggression or limited nuclear attacks is a dangerous and suicidal policy.

MODERNIZATION AND THE STRATEGIC BALANCE

Commission arguments.—Our nuclear forces are older and have aged significantly. The Soviets are ahead on ICBMs and are gaining in submarines. United States modernization of our ICBM force is necessary because of these developments, and to retain the full capacity of the Triad. For the future, the Commission suggests development of a small single-warhead ICBM.

Response.—In fact, U.S. and Soviet forces are of roughly comparable age. Our strategic bomber force is somewhat newer than the Soviet equivalent; the B–52s were deployed after the Soviet Bears and Bisons. Our bombers have also been modernized more extensively; new equipment includes the same offensive avionics package scheduled to be included on the B–1B.

Our ICBM missiles are older, but the warheads are about the same age as those on Soviet ICBMs. Three hundred of the U.S. Minuteman III missiles have recently been retrofitted with 900 of the new, more accurate MK–12A warheads. The Soviets have a marginal advantage in terms of the current warheads on their ICBMs, but they also have the serious liability of concentrating more than 70 percent of their strategic warheads on land-based ICBMs, missiles which will become increasingly vulnerable as Trident D–5 missile deployment nears.

It may be appropriate to study the possible design of a new small single-warhead ICBM, in a survivable or reasonably secure land-based mode. However, a single warhead missile is only effective within a structured arms control regime. Without arms control agreements, the cost of building an increased number of small missiles would be prohibitive. Potential problems with basing and verification of production and deployment of such an ICBM also need to be investigated.

There is no evidence to support the contention that the Soviets are gaining in submarine technology. Our submarines are older, but our sea-launched missiles are considerably more modern than the Soviets'. For example, within the last four years, the United States has deployed over 200 new Trident I missiles, with more than 1,700 warheads. These missiles are newer than virtually all of those in the Soviet submarine force. In addition, U.S. submarine improvements and ASW development are proceeding. U.S. technological sophistication has traditionally been far superior to that of the Soviet Union. Last month, Secretary of the Navy John Lehman testified that U.S. submarines would "remain largely invulnerable throughout this century." Indeed, he stated that submarines were becoming less, rather than more, vulnerable.

The U.S. Triad is formidable. It is immensely powerful, and will retain for decades a great capacity for retaliation in the event of an attack on it. Its deterrent value is more than adequate for the foreseeable future.

TIME URGENT, HARD TARGET KILL CAPABILITY

Commission arguments.—The Soviets have a prompt hard target kill capability, and we do not. We need a prompt hard kill capability, and can gain it with the MX.

Response.—The Unied States does not need a prompt hard target kill capability. In fact, it would be dangerous to acquire such a capability. The Commission report does not adequately defend the necessity for a time urgent response. It fails to state clearly the conditions under which the United States could be expected to use the MX.

If MX is intended for a second strike response, following a Soviet attack, there will be a limited number of hardened targets against which we need to respond. After all, many of the Soviet missile silos will be empty after their attack and the remainder would surely be in launch-on-warning status. There would be few, if any, silos to attack.

The Commission also states that deterrence requires an ability to hit Soviet leaders in command bunkers. We have that capacity now even though that strategy makes little sense and indeed has long been discredited. If we destroy the Soviet leadership, with whom would we then negotiate a termination of hostilities, assuming any U.S. government officials survived? Surely, in any case, we would never wish to strike promptly in an effort to "decapitate", or to break up the command structure of the attackers.

The United States hardly needs additional capacity to strike Soviet hard targets. It now has increasing numbers of cruise missiles as well as the nuclear warheads in our powerful bomber force. Their response time is measured in hours. They constitute a powerful delayed hard target capability. These accurate weapons are already adequate for attacking targets remaining after a Soviet attack. The United States can also respond without directly attacking Soviet cities, by destroying industrial and soft military facilities not located near population centers. Such a response would not require MX.

No prompt hard-target kill is needed in the U.S. arsenal, unless we are seeking a first-strike capability—a capacity that would be inconsistent with a force structure dedicated to deterrence.

MX missiles in Minuteman silos will have utility only if we plan to use them in a first strike against the Soviet Union. The Soviets will not launch a first strike unless they perceive a high likelihood of destroying U.S. missiles in their silos. MX does not change the Soviet assessment of that likelihood. Instead, it simply places more valuable targets in already existing silos. One might argue that 100 MX missiles with their 1,000 warheads is insufficient to pose a confident first strike threat. But with that many deployed, with production lines open, it would become easy and attractive to U.S. military planners to proceed to a much larger force. And this is a danger that would accompany an initial deployment.

The Commission report states that "there is considerable merit in moving toward an ICBM force structure in which potential targets are of comparatively low value—missiles containing only one warhead. The proposed deployment of MX directly and flatly contradicts that proposal. The problem we face today—theoretical vulnerability of our land-based missiles—was spawned by the U.S. initiative in developing the present generation of MIRVed missiles and the Soviet response to it. We should not compound the mistake by building an even more threatening and therefore destabilizing system.

STARTING NUCLEAR WAR

Commission arguments.—The Commission states that we can and should have the capacity to employ strategic nuclear weapons in the event of a—presumably large—conventional attack on U.S. forces or U.S. allies. Indeed, they say it is desirable for the Soviets to believe we would use the full range of our nuclear arsenal in response to a conventional conflict.

Response.—In view of the appalling consequences of an all-out nuclear exchange, and the very high probability that any nuclear exchange (especially one involving strategic forces) would escalate uncontrollably, there is no rational support for first use of nuclear weapons.

Having recently completed a major study of NATO's first-use doctrine, we know this notion of the practicality of first use is false. First use of nuclear weapons would prove dangerous and suicidal. There is no basis for the presumption that nuclear war can confidently be limited or confined to a finite number of exchanges short of escalation to all-out nuclear war. Its hard to believe that tactical nuclear war in Europe or elsewhere can be limited, it is inconceivable that an intercontinental exchange could be controlled. An MX launch in the event of conventional attack would virtually guarantee escalation to an uncontrolled exchange, and would bring about the total destruction of the U.S.S.R. and the United States.

Claiming that the MX is "essential" to "help deter the threat of conventional or limited nuclear attacks on the alliance" is one of the most disturbing findings of the Scowcroft report. The inference that MX might be the weapon ready to initiate nuclear war—and initiate it at the strategic level—is deeply unsettling. These claims are no rationale for moving ahead with the MX; the missile should be rejected outright.

CONSEQUENCES OF MX DEPLOYMENT

Two major dangers may develop following deployment of the MX in Minuteman silos. The first is that U.S. ICBMs will be placed on higher alert status during a crisis, possibly including launch-on-warning, in order to avoid having them destroyed in their silos. That condition could help precipitate the catastrophe we are seeking to avoid. Given the sensitive nature of the U.S. warning system, and its frequent false alarms, launch-on-warning would be a very destabilizing and dangerous posture.

A second danger is the possible development and deployment of ballistic missile defense, to protect the high value MX. In the absence of a feasible approach to superhardening silos, ballistic missile defense will be viewed by some as a necessary complement to MX deployment. However, fixed-point defense systems would violate the ABM treaty and set off a dangerous and destabilizing ABM race.

There are substantial arms control implications of the Scowcroft Commission proposals, as well. The flight-testing and deployment of two new missiles will violate SALT constraints, as will the construction of new, superhardened ICBM silos. The Commission response to this concern is that SALT will have expired by the time the second new ICBM is deployed. Until the Reagan administration came to office, the assumption underlying arms control negotiations was that constraints would become more rigorous over time, not less, and that more effective and powerful treaties would come into force. President Reagan plans systems that would violate the SALT II Treaty, even while claiming to observe that treaty. The development of the new small ICBM fits under the SALT guidelines, but only if we maintain our flexibility by not building MX.

CONCLUSION

We do not share the Commission's view that their recommendations form an indivisible whole. Instead, the recommendations should be viewed separately, each on its own merits. The Commission's recommendations included deployment of the B-1 bomber, the Trident D-5 missile, and cruise missiles, as well as development of a new small submarine. The United States not only does not need the prompt hard target kill potential potentially provided by the MX and the Trident D-5 missile, it is, in fact, dangerous to implement them. The United States also does not need the B-1 bomber. It may be appropriate to study the possible design of a new small ICBM, recognizing it is only useful within a broad-ranging and effective array of arms control measures.

Lacking a military justification for building MX, the Commission has resorted to a political argument. A key conclusion of the Scowcroft report is that we must deploy the MX to demonstrate U.S. resolve. If we do not, the Soviets will doubt our "national will and cohesion". But the United States already has a secure, powerful, and redundant deterrent. The Soviets know this. Rejection of the MX would demonstrate that we ourselves are confident in the strength of our deterrent. It would also signify to the Soviets and the rest of the world that we are serious about arms control.

Finally, there is little hope that MX deployment would pressure the Soviets to negotiate, as expected by the Scowcroft Commission. The Soviets are more likely to respond to the MX deployment by augmenting and improving both their defensive and offensive weapons. Thus, instead of inducing the Soviets to negotiate on arms control, MX deployment could provoke further Soviet responses, which would quicken the pace of the already vigorous nuclear arms race.

Senator WARNER. Thank you very much.

We will now open for questions. I will be here throughout the hearing. If any of my colleagues have a time situation I would be glad to recognize them.

Senator Exon?

Senator EXON. Mr. Chairman, thank you very much.

NATIONAL SECURITY EMERGENCY

Dr. Stone, Dr. Scoville, and Dr. Kendall, I appreciate very much your coming here this morning. I think it is true, as you have indicated and as Dr. Stone articulated, we are in a national security emergency.

I would only add to that by saying, we may be in a national security emergency without adequate debate. And the fact that you are here this morning makes me wish there were more Senators here this morning.

I think the story you are trying to tell this morning is a story that probably is of major concern to about 78 percent of the people in the United tSates, if I read the recent polls correctly. But I am going to ask you a whole series of questions, and my time will not allow me, I am sure, to go over all of them, but I may submit the questions for the record later on if we run out of time.

Let me first say that I assume that all three of you are for or in support of the so-called nuclear freeze resolution that is presently being debated in the House of Representatives. Are you all for that?

Dr. **Stone.** I am, Senator.

Dr. **Kendall.** Yes.

Dr. **Scoville.** I have supported it.

Senator **Exon.** We start out somewhat at odds. I do not support that, and I will not go into the reasons, but the basic reason is that I am not sure the passage of such a resolution is going to entice the Soviet Bear to the negotiating table, and I think that is the goal of all of us.

ARMS CONTROL

But again, good people can disagree on whether that is the right course of action. I do, however, agree with generally the thrust of what you are trying to say here, that we have got to do a better job, because in the end our answer is not simply building more weapons or more systems, but the answer can only be, it seems to me, with regard to some type of arms control.

Now, let me expand on that a little bit, that I find entirely too little attention paid to, and that is that we could become preoccupied with the Soviets' first strike against us or the threat of our first strike or strike on warning against them. It seems to me from what I know of this, it would take a madman, either in the United States or the Soviet Union, to launch a first strike, given the strength of both sides.

I frankly am more concerned, looking at 6 or 8 or 10 years down the road, with the possibility that the Soviet Union and the United States could inadvertently be drawn into a nuclear exchange through some set of circumstances that you gentlemen have outlined here today. I am fearful of that.

It seems to me that it is in the best interest, the selfish best interests, of both the United States and the Soviet Union, including mankind, if they get together with some type of a workable arms control agreement. If they do not, if those two superpowers go on with the arms race, I suspect that you would agree that in the next 6 to 8 to 10 years, every Tom, Dick and Harry of a country is likely to have several of these of their own.

Where would we be today, for example, if Kadaffi had an arsenal of these? He could draw either us or them into an exchange.

Setting aside the Soviet Union and the United States threat to each other, are you not concerned about other countries of the nature of Libya having these weapons, where they would not likely be as stable in their thinking as we hope the Soviets are?

Dr. **Scoville.** We are very much concerned. I agree with everything you have been saying. I think that is a much greater danger than the fact that the Soviet Union might launch a first strike against us or vice versa.

Dr. **Kendall.** Let me respond, too. I am in general agreement with everything you have said.

IMPORTANCE OF CONTROLLING PROLIFERATION

The military people that we have been in contact with in connection with two studies we have carried out are I believe in general agreement, as you have stated, that the risk of war coming through inadvertence, confusion, misunderstanding, is far greater than a planned malignant attack, a bolt out of the blue.

The support that the Union of Concerned Scientists gives to the freeze is that the freeze should be part of a general package. It is not in and of itself enough to, over the long term, significantly lower the nuclear risks. I will not go into the pieces of that, but the last of the package of recommendations we prepared highlighted the risk of proliferation of nuclear weapons into the hands of other countries, possibly very irresponsible countries, and the possibility that through linkage, client-state relations, that the use of nuclear weapons by these other countries could draw the Soviet Union and the United States, again inadvertently, into a major nuclear conflict.

And the importance of controlling proliferation is very great.

Dr. STONE. Since World War II, the proliferation problem has proceeded 10 times slower than the worst fears of the atomic scientists that founded my group in 1945, but the nuclear arms race between the superpowers has proceeded a 100 times worse than their worst fears. I think that trend is continuing and that the danger to the world from the superpower arms race continues to dwarf the proliferation problem.

Senator EXON. It seems to me, gentlemen—and I assume that you have sensed—that there has been a rather dramatic change in the perception of what is the right thing to do with the MX, if anything.

I generally agree with the evaluation of the Scowcroft report that Dr. Scoville gave to us a few moments ago. I think there are some good things in there, but I happen to feel that the weight of the fact that 85 percent, at least, of all the testimony we have heard in this committee and in other committees, from the present Secretary of Defense and others, would indicate that indeed placing MX in a Minuteman hole does not make any sense.

And yet we are about, I think, because of the supersalesmanship that is now going on—and from what I pick up from my colleagues in the Senate, I think the Senate is likely indeed to approve 100 MX missiles in Minuteman silos—despite the grave reservations—that at least this one Senator has about it.

OFFER FOR ARMS CONTROL

What do you think about the proposition that before we go full-scale into this we possibly couple an offer for arms control with the deployment of the MX, even if we go ahead and purchase them, as this moves through the Senate? What I am saying is, do you think that, since the momentum seems to be there and I think they are going to be purchased, do you think it would be wise to at least attempt now to try and couple that with some type of an arms reduction arrangement, only giving the President the opportunity to go ahead and deploy if he cannot make some advances with the Soviet Union on arms control, which we all know is the bottom line of this whole argument?

Dr. STONE. Senator, I would agree with you and go even further. I would say it would be irresponsible to go forward with this program without indicating what we would take not to go forward with this program, in a situation in which all concerned, including the Commission, have said that arms control is intimately related to national security.

The thing that is most shocking about the statements made before your committee this week were that everyone hints that this is part of a bargaining strategy, but no one is willing to state what the price of the bargain is, or even to assert that MX is a bargaining chip. They continue to fuzz up the situation by calling it bargaining leverage, which seems to mean softening up the other side for some later bargain.

I just want to add, Senator, the Russians are at the bargaining table. There is no need to drag them to the bargaining table. They are there, unlike the Albanians. We are in discussion with them. They have made proposals.

So the Commission members and others who insist that we have to drag them to the bargaining table, it seems to me, are missing the fact that we have already got them there.

Senator **Exon**. Thank you.

As I have been notified, my time has expired. Mr. Chairman, if we have a second round I will certainly be here.

Senator **Warner**. Senator Bingaman?

Senator **Bingaman**. Thank you very much.

I appreciate your testimony this morning. I do think that it is unfortunate we do not seem to have the same attendance today that we did when Secretary Weinberger and Secretary Shultz were present before the full committee a couple of days ago.

SURVIVABILITY OF THE MX

Let me ask if I could just get a comment from any of you who would be willing to comment. The question of survivability of the MX seems to me to be skirted somewhat by the Scowcroft Commission and by General Scowcroft in his testimony. General Scowcroft made a statement to the full committee this week, that, if this proposal is adopted, there would be a certain, I think the phrase he used was, synergistic survivability: that even though the Minuteman silos and the missiles going into those silos would not be any more invulnerable or surviable with the MX there than before, that some way or another when you added the MX to the rest of our forces you did have an improved survivability, which as I say he characterized as synergistic.

Could you respond to that, please.

Dr. **Kendall** I think we would probably all want to respond.

My own view is that that seems to be wishful thinking. The MX will become a more attractive target because it has so many warheads in it and because the precision of the guidance means that it is more a threat to the Soviet Union than earlier U.S. ICBM's.

The survivabality of the silos themselves will not change, but the Soviets would be led to plan their attack against them to be more powerful. And it seems to me that the idea of synergistic survivability of the MX itself is more a catchword than anything that has a practical consequence.

Dr. **Scoville**. I think that we have that synergistic effect today as far as the Minuteman force is concerned. With 1,000 Minutemen, it is very difficult for the Soviets to knock out those. And in addition to that, they don't have much incentive to do it, and I think that is the point that General Scowcroft wants to make, that we have a very secure deterrent in the submarine missile force.

The airborne force is much more survivable. when you have a land-based ICBM force to go with it, that is where the synergism comes in. But if you put 100 MX missiles in the Minuteman silos, they are a much more attractive target and therefore it would be much more likely the Soviets would launch an attack against them than they would against the 1,000 Minutemen which now exist.

So I think that synergism is a vanishing asset to the deterrent with the deployment of the MX, but it does exist today with the existing Minuteman.

Senator **Bingaman**. Let me go on, then, to a line of questioning that Senator Nunn pursued earlier in the week, about the effect which this could have on our position in arms reduction talks with the Soviet Union. What ways would you see the Scowcroft Commission's recommendations requiring changes in our negotiating posture at START, for example?

MX INCONSISTENT WITH POSITION ON START

Dr. **Scoville**. Let me say this, that the deployment of the MX is totally inconsistent with President Reagan's position at START, where he calls for putting a ceiling on the total number of launchers and also cutting the number of warheads down. If you put 10 warheads on a single missile, then you are not going to have as many missiles deployed.

And as the Scowcroft Commission makes clear, this then makes the force a more attractive force to attack and makes stability less. So you cannot do what President Reagan hopes to do and yet deploy a large number of—or a large proportion of our force on MX missiles with 10 warheads apiece.

The single warhead missile is more consistent with the limitations on warheads which the Scowcroft Commission recommends and which was the basic objective of President Reagan's original proposal. But you would also have to modify the original proposal, which also put a limit on the number of launchers, because this limit would not allow you to deploy the allowed number of warheads if all missiles were single warheads.

Dr. **Stone**. Senator, I think the situation is worse than my colleague suggested, because I think the combination of hard target kill capability on both sides and the small single-warheaded missiles are going to make arms control impossible on ICBM's. The reason is that when we build the MX they are going to have to go mobile. They are going to start going mobile, and we ourselves are thinking of going mobile with the small single warheaded missile.

Once these warheads and missiles are small and mobile, it is going to require onsite inspection at the production plants to control them, if even that is possible. So I think we're driving the situation in the wrong direction from arms control and I think the single warheaded missile is not a solution to it, but actually makes it worse.

Dr. **Kendall**. The MX is part of a package of proposals which it seems would make arms control more difficult, for a reason which has not been touched on. The MX combined with the Midgetman program would together violate the SALT Treaty or an extension of the SALT Treaty having essentially the same provisions.

There is also a proposal which you are surely aware of for expansion of ABM systems into space which, if it is deployed with the characteristics that apparently would be associated with it, would violate two, if not three, arms control treaties that are presently in force. And there is also a proposal to extend the Trident program to 20 boats from the 10 which I believe are presently in the plan which would violate the SALT II Treaty.

The appearance of this package could lead the Soviets to doubt our good faith in arms control agreements, with all of the projects headed in the direction of violating agreements that we have already negotiated. So it seems the MX would not help establish U.S. commitment to arms control but would in fact establish lack of commitment.

UPGRADING MINUTEMAN

Senator Bingaman. Let me ask you about one other subject that we have discussed earlier in the week in the full committee, and that is the question of the appropriateness of the Minuteman and upgrading the Minuteman as an alternative. The Commission issued this executive summary of their technical assessment where they discuss the Minuteman, improved Minuteman, and they have the sentence in here:

"Although this would generally support arms control and foreign policy objectives, since it is not a new system and since it is not as substantial an addition to our strategic forces, it provides only limited negotiating leverage and shows much less resolve to modernize our forces."

I would be interested in any reaction you have to that or any thoughts you have on the appropriateness of the Congress considering some alternative in the form of a modernizing of what we have, rather than the deployment of an MX missile.

Senator Warner. Would the Senator yield? That report was issued by the Air Force.

Senator Bingaman. I am sorry, I thought that was part of the Scowcroft Commission.

Dr. Scoville. Personally, I find it just unbelievable that the U.S. Government would feel that it has to spend tens and many more billions of dollars for a new weapons system, which is very destabilizing, which makes nuclear war more likely, in order to prove that it is serious.

Somehow or another, I just find that excuse for going ahead with the MX program just totally—well, I would like to say crazy, quite frankly. It just does not make any sense at all, and I think we have got to think through more carefully what—how we can justify going ahead with these kinds of weapons systems, which make nuclear war more likely, on the basis that somehow or another nobody will believe that this country has national will.

I think there are other ways and much more effective ways of demonstrating national will than just buying new weapons.

Senator Bingaman. Would you think, just to be more specific on the question would you think it would be appropriate for the Congress to consider as an alternative to the MX some program to modernize the Minuteman that we already have? Or do you think that would be inappropriate as well?

Dr. SCOVILLE. I frankly do not see that it is necessary. I was struck by one of the recommendations in one of the statements in the Scowcroft report which I have no explanation for, and which maybe you have gotten in the hearings or in some kind of other testimony, and that was a statement that it would take 2 years longer to put the MX guidance system on the Minuteman III than it would to build the MX.

I would certainly like to know what the technical reason for that is, because it just seems totally technically unsound. I hope you have got an answer for that, because it seems to me they are really grasping at straws to use that kind of argument.

Unless there is some technical reason which is not all that clear, I cannot see why yau cannot build a guidance system and adapt it onto the Minuteman III if you really want that kind of a hard target kill capability, which it does not appear to me we need. And I think you could do it faster and certainly an awful lot cheaper than building an MX missile system.

Senator BINGAMAN. Thank you, Mr. Chairman.

Senator WARNER. Thank you.

FIRST STRIKE CAPABILITY

Would each of the panelists provide their definition of a first strike capability?

Dr. STONE. Well, Senator, that is a very good question. The word "first strike" was first used by Secretary Laird in 1969 for a political reason. At that time, the anti-ballistic missile system was before Congress and the justification for it at that time, the fourth of its five justifications, was that it was going to be used to defend our missiles.

And when asked, well, are our ICBM's in danger, Secretary Laird said: Yes, the Soviet Union is trying to get a first strike capability against them. This was a part of the campaign to justify the ABM as a defensive missile.

That was the first time any of our strategists had ever heard the word "first strike" used for less than a disarming attack. A first strike against our right hand when they could not hit our left hand, we never thought was a first strike capability.

Since that time, the word has come to mean just something that you might fire first at the other side's hard targets, and so it has been much debased, as most other words——

Senator WARNER. Hard targets. Now, that is a very important distinction.

Dr. STONE. I would say hard targets. The Soviet Union can hit now or destroy more warheads right now by attacking submarines in port than they can by attacking our Minuteman. But we do not get alarmed about it because there is no campaign for military equipment to fix it.

So I think the word "first strike" has been much misused, and the main thing that the Commission has done, if properly interpreted, is to eliminate this 13-year-old misunderstanding about what "first strike" means. As I understand what the Commission has concluded, it is no longer considered strategically sensible to assume that someone would launch a first strike against part of our deterrent when he could not destroy the rest.

And I believe we should interpret that in reverse, as I said to Senator Nunn, and stop buying hard target kill capability on the theory that the Russians will believe we are crazier than we have just asserted they are.

Dr. **Kendall**. I think Dr. Stone has given what most of us regard as the generally accepted definition of "first strike."

Dr. **Scoville**. I would agree, too, except that I would like to perhaps amplify a little, and that is when you are talking about the MX as being a first strike capability in the eyes of the Soviet Union I think you have to recognize that the MX will not do the job that administration—Reagan has said he wants the MX for, which is to threaten the Soviet ICBM force.

It will not threaten Soviet ICBM's unless it is used in a first strike, in other words if it is used before the Soviets launch their missiles at us, because there will just not be any missiles there, or it will not survive their first strike.

So in that sense, it will look to the Soviet Union as a first strike force and will force them to take the kinds of responses which make nuclear war possible.

MINIMIZING A FIRST STRIKE

Senator **Warner**. Now, let me read this question rather slowly. The same factors which led the Scowcroft Commission, and indeed as I have listened today each of you, to minimize the danger of a Soviet first strike—those factors were operational, technical, scenario driven—those same factors do not serve similarly to mitigate against the dangers of a U.S. first strike against the Soviet Union?

Dr. **Stone**. Exactly. They show that the strategy of deterring Soviet aggression in Europe by threatening massive retaliation on Russia and a disarming attack is no longer credible. I agree completely.

Dr. **Kendall**. I agree, too. I believe it is no longer credible and I believe that that has been the source of much of the public anxiety, the recognition that this threat is in some sense hollow.

Senator **Nunn**. Mr. Chairman, may I ask one question here?

Senator **Warner**. Let Dr. Scoville answer first.

Dr. **Scoville**. I agree, too. On the other hand, there is therefore no reason to buy the MX if we do not propose to use it in the first strike because it will not do the job that we want for it to do if it is not.

FIRST STRIKE CONCEPT

Senator **Warner**. So the nonsurvivability of the MX places it in the category of first strike weapon, in your collective judgment?

Dr. **Kendall**. Plus the combination of weapon yield and accuracy.

Senator **Warner**. That is intrinsic to the weapon.

Now, Secretary Shultz the other day said it was not a first strike system because of the limited number proposed, namely 100. Do you subscribe to that?

Dr. **Scoville**. No. I do not, because—for two reasons:

One is the 100 MX's are not the only strategic weapons we have today. We do have——

Senator **Warner**. We are dealing with the first strike concept.

Dr. **Scoville**. Yes, I know. But we do have modernized Minuteman III's with another 1,650 warheads which, while not having quite the same hard target kill capability as the MX would have, they still do have a hard target kill capability. In fact, that is why we are getting them. And you add those two together and then it does become a threat to the entire Soviet ICBM force.

Second, there is no reason why the Soviets would know that we are going to stop at 100. They cannot rely on that, and therefore the fact that we say we are only going to have 100 will not help or avoid all of the bad features that this counterforce has.

Senator **Warner**. Any amplification by any of the others.

Dr. **Stone**. I agree completely. And as Senator Cohen said earlier in these hearings, as I understood what he said, there is no vulnerability gap between the two sides in this regard right now. We can destroy as large a percentage of Soviet warheads in a first strike as they can destroy of ours in a first strike, and this is because they have so many warheads on those SS–18's that all we have to do is take out 300 silos and we will destroy as large a percentage of their warheads as they would destroy by knocking out all the Minutemen.

Senator **Warner**. Senator Nunn?

Senator **Nunn**. Just a couple of observations. It seems to me everything you have said negative about the MX first strike weapon—it would not be there, the Soviet missiles would not be there, and so forth and so on—it seems like the same things could be said against the Soviet SS–18. Is that right?

Dr. **Scoville**. I would agree. I do not like the Soviet SS–18 any more than I like the MX. On the other hand, buying the MX is not the response to the Soviet SS–18. It does not do anything to counteract the SS–18 capabilities. It only actually enhances the capabilities by providing it with a target for the Soviet SS–18.

Senator **Nunn**. The logic that escapes me is that you list several negative things about the MX and say that—conclude that it is a first-strike weapon, and it just seems to me that every one of those reasons would also apply to the SS–18. Do you agree with that?

DIFFERENCE BETWEEN FORCE STRUCTURES

Dr. **Scoville**. Well, no, because there is one fundamental difference between the two force structures. The United States quite wisely decided to put only a quarter of its effort into land-based ICBM's, and therefore, even if, as Dr. Stone just said, the Soviets knocked out every single one of our ICBM's, we are still left with three-quarters of our strategic deterrent.

Senator **Nunn**. Now, you have got 40 percent of the subs in port.

Dr. **Scoville**. But even so, we have 3,000 warheads at sea, essentially most of the time. And in addition to that, we have another two—I do not know what the exact number is today, but something, 2,000 or so warheads on aircraft.

Senator **Nunn**. What escapes me, though, you all seem to be willing for the Soviets to keep that SS–18.

Dr. **Scoville**. No, I would like to get rid of it.

Senator **Nunn**. But I do not know of any strategy—I mean, a minute ago Dr. Stone mentioned that the strategy he would have is for us not to go with the MX, for us not go to with the Trident II, in exchange for them not developing counterforce at sea.

And in reply to my question he said that would not touch the SS–18's, we would leave them right where they are. So it seems to me you are arguing against us having an MX as a first-strike weapon, but you're willing to leave their first-strike weapon, which is analogous sitting right where it is with no arms-control leverage whatsoever to do that. You are conceding that.

That is where an awful lot of people fall off your logic, or I do.

MATCHING SOVIET FIRST-STRIKE CAPABILITY

Dr. SCOVILLE. Matching the Soviets in first-strike capability does not provide any increase in our security. It actually provides a decrease in our security, because it gives the Soviets a greater incentive than they have to use their first-strike capability.

That is the point that I believe that the Scowcroft Commission is making, that at the moment the Soviets have no incentive to use their so-called first-strike capability, but if we put the MX in there, which is a potential first-strike capability against them in the same way, then they have incentive to use it, and that is very dangerous for us.

I am interested in our security.

Senator NUNN. Of course, it would be better if we could use the MX or some other leverage, whatever it is, to get rid of the SS–18's, so we would not have that hard-target kill on either side and that prompt response on either side, so that neither side would go to launch on attack and we would reduce the threat of miscalculation, accidents, and so forth.

Dr. SCOVILLE. Absolutely.

Senator NUNN. Well, what I do not discern anywhere in your strategy, though, is anything anywhere that is going to give us any leverage against what they have already got deployed. All that you talked about is using what we are now doing as bargaining chips or giving that up, hard-target kill, Trident II, and so forth, in exchange for them not doing other things.

But you are not getting at their SS–18's in any of your arguments that I see. Maybe I missed something. What is it that is going to get at this SS–18? Because it may be that you three, in all sincerity, and you are all very bright and I admire you—I think you are making a contribution here, and you have.

But you see, you are not in charge of our strategic forces, and the people in charge of our strategic forces, whether you worry about the SS–18's or not, they worry. They have been worrying through three administrations, a lot of different uniforms, a lot of different ones. I have found very few that are not.

I think we are inexorably moving toward launching quicker than we did several years ago. I do not want to use any of the verbiage, because that denotes something that may not be accurate. And it seems to me that probably the Soviets are going to have to move in that direction.

I would agree with you that both sides are moving more toward a hair trigger. Now, the question is, how can we try to remove that or eliminate it?

The Scowcroft Commission I think has said it has got to get worse before it gets better. But you are saying in effect you do not want it to get worse at all, because you do not believe that the MX will ever be used as a bargaining chip. You believe that it will go ahead and be deployed. You start with the assumption, as I read it, that once we start down the road on the MX there is no turning back, we are going to indeed deploy 100 of them and we may deploy more.

USING MX TO REDUCE HARD TARGET KILL ON BOTH SIDES

I start with at least—maybe it is a hope, not an assumption at this stage. I start with the hope, though, that we could use the MX to reduce that hard target kill on both sides.

Dr. STONE. Senator Nunn, may I say that I did propose a complete solution of your kind to the Scowcroft Commission, and I submitted my testimony to the Scowcroft Commission in the record of the hearing. Let me describe what that was, because this all came up in the hour they accorded me before the Commission.

I said to them, you should propose to the President at least one option that settles this matter with arms control rather than procurement, even if you do not agree with the option. I said, here is my option for doing it. If you can think of a better one, fine.

My option I called option B, because I know in Government option B is the one that is always chosen. [Laughter.]

And in order to make sure they did not forget it was option B, I called it bilateral pause, barter, only then buy.

And I said, here is what you ought to do: Agree to stop the flight test of the one new ICBM on both sides, since those flight tests of our MX or Midgetman missile, whatever one it is going to be, had not been started and since the Soviets had only done two flight tests of their one new type.

I said stop those. I do not agree to the view I hear from one of your staff members that the other Soviet ICBM has been proven to be a new type, instead I think it can be argued to be, and the Russians have sent a note arguing it to be, within the 5-percent limitations of an existing type.

So in any case, I said stop the one new type of ICBM on both sides, subject to negotiations on reductions. And when I was asked by one of the sharper members of the Commission, well, does that mean, Mr. Stone, that we are only going to get for our MX, the one new type that they have, I said: Oh, no, you will get all that good stuff you really want, the SS–18's and SS–17's and SS–19's.

And they said why? I said: Because the agreement to stop the flight tests of the two sides is contingent upon getting agreement on a reductions plan, and if you get agreement on a reductions plan presumably you got whatever you asked for, which is a certain number of SS–18's, SS–17's, and SS–19's.

If you do not get what you asked for, then I said, you go back to flight testing your one new ICBM.

So I did have my eye on this problem you are referring to.

Senator NUNN. Would that not require some kind of approval of the MX flight testing, though, contingent on being able to eliminate that if indeed we were to get such an agreement?

Dr. **Stone.** The one thing that is not in danger in this building, Senator Nunn, is the research and development budget on MX containing the flight testing program for MX. The MX procurement funds may be killed, but the flight testing does in fact exist, I think, as an unchallengable reality.

Even the freeze movement, Senator Nunn, has proposed that no money—that this kind of proposal——

Senator **Nunn.** When you say "even," you mean that is an extreme movement or what? [Laughter.]

Dr. **Stone.** Well, I am a member of the strategy committee of the freeze, so I do not mean it is an extreme movement. But I mean, they are prepared to take as an interim restraint something which is much less than the full freeze, and they voted at their St. Louis meeting that a resolution in Congress that said no money shall be spent to flight test the one new ICBM permitted under SALT II on our side unless the President certifies that the Russians have gone ahead with the flight testing of the one new ICBM permitted on their side, would be a sensible interim restraint to permit the same negotiations we are talking about to reach a conclusion.

I just want to emphasize, Senator Nunn, that if we do go ahead with this MX without some kind of context of this kind, we are going to make negotiations impossible rather than encourage them, because the Soviet Union has to have lead time to build their new missiles and when they see the MX coming down the road they have got to start going mobile right away.

Once those programs to go mobile are there, then you've got a whole new arms control context, a moving target for arms control to shoot at, which is not easy.

Senator **Warner.** Gentlemen, Senator Nunn, your time is up.

I would now call on our colleague Senator Cohen.

Senator **Cohen.** Just a couple of questions, Mr. Chairman.

PERSHING II'S AND THE MX

Dr. Scoville, I think you indicated that—let me ask it this way. Let me ask you about the Pershing II's and the MX. I think there is some connection, at least that the Commission draws. Namely, this demonstration of will also has other implications, not only about whether we have the "national will" or national consensus to go forward with our ICBM, but rather there is an interconnection between the Pershing II and the dual track agreement with the West Europeans.

Do you support deployment of the Pershing II in the event that no agreement is arrived at?

Dr. **Scoville.** No. I think you are quite right in linking the Pershing II and the MX missile. I think both of them are dangerous weapons systems which do not improve our security, because they actually provide a tempting target for a Soviet nuclear attack in a time of crisis.

They are basically vulnerable weapons systems and they are provocative weapons systems, in the sense that the MX threatens the Soviet deterrent force while the Pershing II threatens their command and control, and therefore the Soviets will have incentives to attack them.

I think the kind of weapons that we need and which we have relied on in the past are invulnerable weapons systems such as submarine-launched weapons systems, which have been the basis of the NATO deterrent ever since the 1950's. These are sound weapons because they do not draw enemy fire and do not make nuclear war more likely.

But buying weapons which make nuclear war more likely just because we have to demonstrate our will is to me a prostitution of the whole idea of will. It is not a sensible action.

SOVIET DEPLOYMENT OF SS–20 MISSILES

Senator COHEN. What justification do you think the Soviets have for moving forward with such a large deployment of SS–20 missiles against the Europeans?

Dr. SCOVILLE. Well, I do not approve of that any more than I approve of the SS–18's and SS–19's. But I think that there was a real need to modernize their SS–4's and SS–5's, which they have had for many years in Europe. In many respects those weapons, the SS–4's and SS–5's, were very vulnerable, because they were not nearly as hard and resistant to attack as even their ICBM's were.

Senator COHEN. Vulnerable to what?

Dr. SCOVILLE. To a possible attack by the West.

Senator COHEN. What weapons would the West use, the Western Europeans use?

Dr. SCOVILLE. To knock out the SS–4's and SS–5's, I believe we could use almost any number of our weapons. We certainly could have used our ICBM's and we could have probably used our submarine-launched missiles as well.

Dr. STONE. Even aircraft.

Dr. SCOVILLE. They were not nearly as blastresistant as their ICBM's. They were fundamentally a vulnerable force, and to get them less vulnerable is not necessarily to our disadvantage, because they will have less pressure on their trigger fingers if they are less vulnerable.

Senator COHEN. Are you suggesting that the SS–20 really is an attempt to arrive at a less vulnerable system?

Dr. SCOVILLE. I think that is one of the reasons. I think they also wanted a more modernized weapon. Unfortunately, on both sides there is a tremendous pressure. If you can do something better, you do it, no matter what the consequences.

SOVIET SYSTEMS

Senator COHEN. But I would just like to follow up a line of questioning by Senator Nunn. It seems to me that when you talk about the Soviet systems, you then speak in terms of modernization as if it is somehow more benign.

Dr. SCOVILLE. I do not consider the SS–20 benign at all. I think it is not as threatening as the Pershings because it does not threaten our central, the western central command and control, because it cannot get to the United States, while the Pershings can essentially get to Moscow. So in a sense the Pershings are even more destabilizing, but the SS–20's are dangerous because they can threaten our nuclear stockpile sites in Europe, for example, and that is not——

Senator COHEN. Well, you would subscribe to the view that any attack on a Western ally is an attack on the United States?

Dr. SCOVILLE. Yes.

Senator COHEN. So to the extent that the SS–20's can be used to destroy either military or indeed civilian areas, that would constitute an attack upon the United States as well?

Dr. SCOVILLE. Yes.

Senator COHEN. And what I am trying to find out is why and under what pretext or what kind of rationalization the Soviets could possibly have—I can understand the need to modernize to insure survivability, since that does serve to add to a deterrent, but it seems to me that the SS–20 is a rather quantum leap in capability. In the nature of a threat that it now poses, I am a little bit concerned about it.

Dr. SCOVILLE. That is just the reason I do not like the SS–20's.

Senator COHEN. We do not either.

Dr. SCOVILLE. Well, that is all right, and I would like to get rid of them.

Senator COHEN. The question is how.

Dr. SCOVILLE. I do not think getting rid of them, the answer to this, is putting in the Pershings. I think it would be far better to assign more submarine missiles to NATO. If we do not have enough submarine missiles supporting NATO, I would do that. But I do not see putting a target out there for them to destroy is the answer.

It seems to me it is just making their weapons more likely to be used.

Senator NUNN. Interestingly enough, if Senator Cohen would yield, that is what was proposed before this Pershing program was launched, and the European leaders talked the United States out of it.

Dr. SCOVILLE. Well, there was a little bit of talking on both sides.

Senator NUNN. Perhaps so, but a great deal of the lead in rejecting that was the Europeans, because of psychological reasons.

Dr. SCOVILLE. We were the ones, I believe, who sort of interjected the Pershing II's into the package of weapons systems. Originally it was going to be just the cruise missiles.

Senator NUNN. Maybe so, but the land-based idea was European, and that was for very strong psychological reasons in Europe.

Excuse me, Senator.

Senator COHEN. I agree with you, Dr. Scoville.

Dr. SCOVILLE. But the Europeans are not necessarily any wiser than we are.

Senator NUNN. We can stipulate that. [Laughter.]

Senator COHEN. I was going to point out that I agree with your suggestion that we get an answer as to why we cannot put the MX guidance system on the Minuteman. I think I did ask that question, as a matter of fact, concerning what factual data they relied upon in reaching that conclusion. I hope we can find an answer to that before we go forward.

Dr. Stone—I am sorry, did you want to speak, Dr. Kendall?

RUSSIAN BUILDUP IN EUROPE

Dr. KENDALL. Just very briefly, on the Russian buildup in Europe. It seems to me that from the Soviet point of view the very large number of missiles they have put in have not helped them in a military sense, because they have induced just the kind of reaction by the United States which has worked to their disfavor. It is the reciprocal situation which we are calling attention to with the proposed MX deployment; namely, that the installation of this system will induce a Soviet response which will be very dangerous to us.

That is, the Pershing, the Soviets have now discovered to be enormously threatening to them, although they in some sense were the people who stimulated the threat.

Senator COHEN. Well, I suppose we could fold the logic out that if you have a Minuteman which is less threatening and is less likely to attack—I suppose if you have no Minuteman at all, you reduce the likelihood of attack as well. That seems to be a logical conclusion as well.

Dr. SCOVILLE. Certainly that would remove all the targets for them.

There is one advantage of keeping some land-based missiles, which is the point that the Scowcroft Commission makes, that it makes more survivability the airborne leg of the strategic triad because you cannot knock out both aircraft and ICBM's simultaneously. I would not put a lot of money into upgrading the land-based missiles and I certainly do not approve of the idea of giving them a potential first-strike capability, because that is just compounding the trouble.

B-1 OR STEALTH BOMBER

Senator COHEN. Do you approve of modernizing the air leg with either the B-1 or the Stealth bomber?

Dr. SCOVILLE. The Stealth bomber development I think is a very sound development which we ought to investigate and push to the maximum that technology will permit. The B-1 bomber is not in my view a dangerous weapon system of the kind that we are talking about when we talk about the MX because it does not increase the likelihood of a nuclear conflict breaking out.

On the other hand, from what I know of it—and I looked at it fairly carefully in the past—it is a terrible waste of money, because it is not really a very useful solution for any length of time.

SINGLE MOBILE MISSILE SYSTEM

Senator COHEN. Dr. Stone, you indicated that if we went to a single mobile missile system, that is entirely in the wrong direction, because that will require onsite inspection at the production site. Would a nuclear freeze require onsite inspection in your opinion?

Dr. STONE. Well, it depends upon exactly what was in the freeze. If you took every last aspect of the freeze that has been proposed in one place or another, I am sure you could find places where onsite inspection would be very helpful, at production plants and things like that.

But I think onsite inspection is much exaggerated as a useful tool for the freeze, because for the most part when you get down to the level of wanting a Russian inspection then our side does not want to give the inspection either. And we have seen that already with the test ban treaties, where the laboratories do not want people mucking around at the test sites.

Senator Cohen, the reason I mentioned this onsite inspection is Congressman Gore, who is a leading proponent of this proposal, put in the Congressional Record on April 7 a submission from the Congressional Reference Service as to how you would monitor an arms control regime with the mobile single warheaded missile that he is advocating, and it required such onsite inspection that after reading the report I concluded that arms control would probably be impossible with the single warheaded missile, even though the purpose of Congressman Gore's submission was to persuade me of the opposite.

Because what he concluded was, you would have to count the warheads as they came out of the factory door, and then they would be able to deploy freely in the surrounding territory.

Senator COHEN. Could I just have one final question, Mr. Chairman?

I am not sure which one of you indicated that the Soviets could never be sure that we would not go beyond the 100, that we would stop at 100.

Dr. KENDALL. Both of us did.

Senator COHEN. I assume that as part of the so-called leverage that the Commission is recommending, namely that the Soviets will not be sure that there will not be more than 100 produced. Therefore that is the leverage they seek to exploit in order to bring them to an arms control agreement. Is that something that you just dismiss?

Dr. SCOVILLE. I do not think that is very sound leverage. You are absolutely right, though. That is in the Scowcroft Commission report, which therefore would just give the Soviets more basis for thinking that we might not stop and therefore it has all of the bad effects of a larger deployment. It does not make them more likely to give up their capabilities; it actually makes it more likely that they will go on and build more of their own weapons themselves.

Senator COHEN. My time is up. Thank you, Mr. Chairman.

Senator WARNER. Thank you very much.

We had invited Richard L. Garwin of the IBM Thomas J. Watson Research Center to be present this morning. He was not able to attend, but has contributed a very valuable dissertation which will be made a part of the record.

[The prepared statement of Mr. Garwin follows:]

PREPARED STATEMENT SUBMITTED BY RICHARD L. GARWIN

DEAR SENATOR WARNER: Thank you for the invitation to present testimony to your hearing on the MX. I regret very much that I must be in London April 22, 1983, and so cannot testify in person. I hope that this testimony for the record will be of help. I supply it in 100 copies, and request that it be distributed to the Members of the Committee and the press at the opening of the Hearing.

I note that I speak for myself alone, and these views should not be regarded as those of the IBM Corporation or of any other group with which I am associated. In addition to the general experience related in the biography, I have worked since 1952 on ballistic missiles, defense against ballistic missiles, and arms control. In recent years, I have consulted technically and done studies for the Defense Department, for the White House, and for other agencies of the government in both Carter and Reagan administrations. On January 27, 1983, I testified to the Commission on Strategic Forces.

My present comments on the MX deal specifically with what U.S. programs should be, in the light of the recommendations of the Commission on Strategic Forces.

I agree with most of the analysis and most of the recommended programs following from the analysis of the CSF.

Minuteman vulnerability is not of major importance so long as the overall strategic force is not vulnerable.

A small ICBM (Midgetman) is a desirable direction for the strategic force, whether we have an unbridled arms race with the Soviet Union or we seek and achieve major reductions.

The submarine-launched ballistic missiles (SLBM) on large submarines are at present an invulnerable and enduring component of the strategic forces. For the future, we should have the option of basing strategic weapons on small submarines, and development of such small vehicles for SLBMs should begin soon.

Strategic arms-control negotiations will serve the national security better if they are more specifically oriented toward a limitation on numbers of warheads than if they are directed toward a reduction in number of launchers, and there are feasible approaches to seek such a reorientation while attending unilaterally to our own security needs.

I disagree with the Commission on Strategic Forces in their recommendation for a program which is simply grafted onto their analysis and which in no sense follows from it—the recommendation to complete development and to deploy 100 MX missiles in Minuteman silos. I disagree because our own objective security needs can be met better without the MX, and because the concept of MX as a bargaining chip (if one accepts that objective) is better served by a less costly and nearer-term program to upgrade the accuracy of the Minuteman-III missiles and of the Trident-I.

In 1979, I was arguing that to redress the "imbalance" in "time-urgent hard-target kill capability" expected at the expiration of SALT II in 1985, one could and should improve Minuteman accuracy and the accuracy of the Trident-I missiles in part by use of the ground beacon system, GBS, or the Navstar satellite system. Having studied these matters, I was confident of this conclusion, but because others were not persuaded, I obtained from the Under Secretary of Defense (Dr. W. J. Perry) a SECRET letter, of which the final paragraph is unclassified and which supports this position in comparison with basing MX in Minuteman silos:

"Thus, while it is technically feasible to equip MM III with GBS, I do not recommend it either as a replacement for MX or as an adjunct to it. In both cases, survivability is by far the most important dimension and it is not improved by GBS. Placement of GBS as an adjunct in a relatively non-survivable MM III system raises the specter of its use primarily as a first strike weapon since it cannot be expected to perform credibly in a trans-attack mode.

Sincerely,

/signed/ Bill Perry" (11/29/79).

Now that MX is no longer claimed to solve Minuteman vulnerability but has the primary purpose of posing a threat to Soviet silos, we ought to pose that threat as cheaply as possible. Furthermore, building and testing the MX will exhaust our "one new strategic missile" allowed under SALT II, and therefore impede progress toward the Midgetman. Most practically, so long as there is an MX program, its backers represented by the powerful organizations (and measured by the funds involved) will cast the Midgetman as a costly and long-delayed weapon.

Finally, it has been argued that the Soviet Union has no reason to fear a limited deployment of 100 MX (with 1,000 warheads), even with silo-killing accuracy, because 1,000 warheads are too few to pose a first-strike threat. But it is not the symbolism of the MX which would provide it with any leverage as a bargaining chip; it is the possibility that a full-scale development and a production of 100 missiles is in no way different from beginning a program which would lead to 500 MX (and 5,000 warheads). A credible MX bargaining chip preserves the domestic ambiguity as to the extent of the MX program. A year or two hence, serious proposals for Multiple Protective Shelter systems (or Dense Pack) will reappear, and the Congress should understand that cancelling the MX now is the only way to avoid these costly and still vulnerable systems. In his statement, Harold Brown explicitly notes approvingly that the MX deployment" . . . might, by a future expansion, ultimately threaten all Soviet ICBMs."

We neither need nor want the MX now. It will interfere with attending to our own national security concerns. As I testified to the Commission on Strategic Forces, I recommend attention to the survivability of our command and control systems; to the measured expansion of the air-launched cruise missile force on the B-52 bomber fleet; and to the development of buried-bomb defense of 100

Minuteman silos. I recommend that a commitment to development and deployment be made now for Midgetman, with the first 450 Midgetman to replace Minuteman II in the silos, and with the preferred mode of deployment of further Midgetman being in small, special-purpose silos of hardness about 1,000 psi, and hence very low cost.

In arms control, I believe that the new approach of limiting warheads could effectively be achieved by ratifying the already signed SALT-II Treaty, and then approaching the Soviet Union with a protocol which would allow the exchange of two of the land-based MIRV warheads (of which each side is entitled to 8,200 under SALT II) for a single Midgetman in a new-construction small silo. This would have features of the "guaranteed build-down" now under discussion in Congress. The protocol should preferably ban land-mobile ICBMs, but there would be the clear possibility (if the protocol were not accepted by the Soviet Union) that the U.S. could deploy large numbers of Midgetman in a mobile mode.

There has been much comment about the "greater cost" of the single-warhead ICBM deployment, in comparison with the "cost-effectiveness" of MIRV. While this was true in the 1960s, I believe that it is no longer valid. In fact, a Midgetman built well within the technology established by MX (and deployed in small silos) is likely to be very considerably cheaper and MIRVed alternatives. Taking just the guidance system (for which there obviously has to be one per warhead in a Midgetman system), the maximum additional cost is given by the $0.5-million cost of an off-the-shelf guidance system capable of doing the job. In comparison with the $26-M cost per deployed warhead of Dense Pack (or the comparable cost of the Multiple Protective Shelter system) this special cost associated with the Midgetman is negligible.

U.S. presidents have for years recommended the deployment of the MX as a cure for the vulnerability of Minuteman missiles. Now that the Commission on Strategic Forces has eliminated this aspect of deployment (and shown that this emphasis was mistaken), it would be more in keeping with the American pragmatic spirit to abandon the MX and to choose, forthwith, the deployment of the Midgetman instead. Under these circumstances, Midgetman would not be a 1990s system, but deployment could begin in 1987 and be complete in two years. This would even allow an efficient, competitive development, far less expensive for such a small missile than for a large MX.

Senator WARNER. Senator Exon?

Senator EXON. One minute, Mr. Chairman.

I just want to thank you once again, gentlemen, for coming here. I hope that maybe we can expand the debate.

I congratulate the chairman of the committee for having this hearing. I think that some of the suggestions that have been made here are very worthy and perhaps, rather than just shuffling off the decision to some kind of a commission, maybe indeed the suggestion has been made here, Mr. Chairman, that it is the responsibility of this committee to get into this part of the factoring, both with regard to the MX and how it affects our overall arms control.

AMERICAN PEOPLE CONFUSED

And I just want to sum up by saying that the window of vulnerability which has played such an important part for the last few years in driving us one way or the other, with regard to our whole strategic deterrent, must be tremendously confusing to the American people today.

You know, I for one said on October 2, 1981, that I was amazed when the President literally turned upside down the total strategic deterrent, right, wrong, or indifferent, that had been the major considerations of all previous administrations. And now I guess I am most concerned about the fact that, are the people being properly informed on all of what is going on now?

Certainly their interest in the nuclear freeze movement is probably the best thing that happened, because we can understand now that Americans are deeply concerned. I just happen to feel that the "window of vulnerability" concept, after concentrating on that for so long and all of the other factors that we deal with here, might be a rather devastating indictment of the system of honestly dealing with the people in our decisionmaking process that we call democracy.

And if nothing else, the fact that you come here this morning and have given a different perspective to some of these considerations and decisions that we have to make has been very helpful to us, and I thank you.

Thank you, Mr. Chairman.

Senator **Nunn**. Mr. Chairman, if I could just add my word of thanks to each of the witnesses, I think you made a real contribution. And I read what you say frequently. I do not always agree with it, but I always respect your reasoning and I think you do make a real contribution.

And if I could just add one other thing, this "window of vulnerability" term has been tossed around so much, I think the problem is that the people who originally came up with the idea were talking about vulnerability of one leg of the triad, and then it got expanded into a term, unfortunately, that included the connotation of everything being vulnerable, which was a gross expansion.

But there are a couple of things that have happened since that term started. One is, there was a tremendous upgrade in our own assessment of the Soviets' ability to knock out our land-based missiles. That happened early in the Carter administration.

And another big difference now is that the bomber force survivability is not just getting off the ground; it is a question of being able to penetrate to the target, and that is missed in a lot of these conversations. Not only do you have to get it off the ground, you have to penetrate. And we are trying to remedy that with our ALCM's and another bomber and so forth.

So I think that trying to define it as if there has never been any vulnerability at all is also a real mistake, and I do not think that is what the Commission meant. I think they meant that the "window of vulnerability" term had been greatly exaggerated. But that does not mean there was no vulnerability or is no vulnerability.

Senator **Warner**. Thank you, Senator Nunn, and thank you, Senator Exon.

I assure you that the leadership on this committee from both parties has tried to make available the opportunity to the widest possible range of persons and organizations to come forward on this critical issue, and I join my colleagues in expressing the appreciation on behalf of not only the Armed Services Committee, but the Senate as a whole, who will have access to your valuable contributions today.

The next panel—we will recess for 5 minutes, but I wish to make the announcement that we are very fortunate indeed to have probably one of the finest sets of brains in the United States technically to come forward, with Gen. David Jones, Lt. Gen. Kelly Burke, and Lt. Gen. Glenn Kent.

Regrettably, Admiral Gayler had to cancel at the last minute because of a personal commitment. He will be given, however, the opportunity to come before the committee in a subsequent session.

We will recess for 5 minutes.

[Recess.]

Senator WARNER. The subcommittee will now receive testimony from Gen. David Jones, former Chairman of the Joint Chiefs, Lt. Gen. Kelly Burke, and Lt. Gen. Glenn Kent. As stated by the Chair earlier, Admiral Gayler was unavailable at the last minute and perhaps he will have the opportunity at a mutually convenient time to provide future testimony.

We also will put in the record a letter to the committee from General Ellis. As carefully pointed out by the Chair and the writer, that letter is forwarded in his former capacity as commander in chief of the SAC service.

[The letter from Gen. Richard H. Ellis follows:]

APRIL 20, 1983.

Hon. JOHN W. WARNER,
Chairman, Subcommittee on Strategic and Theater Nuclear Forces,
U.S. Senate.

DEAR MR. CHAIRMAN: Thank you for the opportunity to present to this Subcommittee my views on the Scowcroft Commission's report to the President of the MX. Four years as CINCSAC and being a strong proponent of the need for the MX system for many years qualify me as knowledgeable on and vitally interested in the subject.

Members of this Subcommittee may recall that during SASC strategic force hearings in 1979, 1980 and 1981 the undersigned, then CINCSAC, presented the results of an analysis measuring the current and projected strategic balance between the US and USSR. The 1979 analysis, using dynamic as well as static planning factors, portrayed the US as falling behind the Soviet Union in strategic strength and projected a continuing sharp adverse decline in relative strategic strength through the early Eighties. Updates of that analysis in 1980 and 1981 confirmed those findings as well as demonstrating that planned force improvements would not restore the strategic balance during the decade of the Eighties.

To correct the dangerous situation, the SAC presentation recommended certain necessary force add-ons which, in addition to the then-planned force modernization programs, would restore the balance by the end of this decade. Among other things, these recommended force improvements included: the MX with an IOC of 1986; an interim strategic bomber with a mid-Eighties IOC; an advanced technology bomber with an IOC in the late Eighties or early Nineties; a proposal to re-engine the KC-135 plus procurement of the KC-10; and, as a matter of priority, modernization of the strategic C3I system. As a result of this Administration's initiatives and with the strong support of Congress, and especially the SASC and this Subcommittee, all of those recommended programs are proceeding satisfactorily and at a reasonable pace—with the sole exception of the MX. This Subcommittee will also recall that the highest priority and centerpiece of the SAC modernization program was the MX. These current hearings provide the springboard for the final, and most important step in the modernization of the Triad and re-establishment of the strategic balance.

As to the findings and recommendations of the Commission on strategic forces, of major significance was the Commission's validation of the Triad concept of deterrence—a concept that has served this country well for over a generation. I need hardly remind this Subcommittee of the synergistic effect of the three elements of the Triad or the contribution of the land-based ICBM with its fast reaction time, excellent accuracy, outstanding command and control and, most importantly, its extremely high rate of alert (very nearly 100 percent) in the normal day-to-day alert mode. This alert rate offsets the relatively low alert rates of the strategic bombers and SLBMs (normally under 50 percent), in the same alert mode. Additionally, this high alert rate plus the fast reaction launch capability of the ICBM forces—i.e., if necessary the entire ICBM force can launch in under five minutes after receipt of an execution authority—helps offset vulnerability caused by the static basing mode of the ICBM. Finally, the US ICBM high alert rate, plus fast reaction time and excellent accuracy, especially that of the MX, provides the NCA the flexibility to place the entire Soviet ICBM force (which is over 70 percent of their entire strategic nuclear capability) at risk, with two warheads for every Soviet ICBM launcher.

To those who would describe the above-cited capability as a destabilizing first-strike potential, I would point out that the Soviet Union currently possesses this capability whereas, without the MX, the US does not. This current imbalance is the most dangerous kind of strategic instability. I should also point out that by the time the MX becomes operational to a meaningful extent—late in the decade—both sides will have upgraded warning and C^3 capabilities which, along with the inherent ICBM fast launch capability, will enable either side to ensure, positively, that it is under attack before having to launch its ICBMs. Therefore, unless one of the sides plans to launch first—and certainly the US has never been in this category—the first-strike argument is not a convincing counter to the demonstrated and clear need for the MX.

While I am still on the subject of strategic stability, the Commission is to be commended for its advanced thinking and recommendations on the requirement for a small, single-warhead ICBM that could be deployed in the 1990's in a mobile mode. By that time the Soviets should be concerned about the increasing vulnerability and growing obsolescence of their fourth generation ICBMs and prepared to join the U.S. in a more stable strategic nuclear environment. However, if they are not, we will have the option of continuing to deploy additional MX while moving ahead with the small ICBM.

Certainly one of the primary concerns of any SAC Commander is his duty to notify his superiors and the Congress of modernization needs. Some members of this subcommittee will recall that, during my watch as CINCSAC, I described this as an overriding concern relevant to both the bomber and ICBM legs of the triad. Those members will also recall catastrophic accidents in both the bomber and missile forces, with attendant loss of life, which can be attributed in part to obsolescence of equipment. Press accounts would indicate the situation has not improved. This Administration has recognized the problem, and our oldest bombers and ICBMs are now being retired. Replacement actions for the bomber force are underway but the ICBM force is being reduced without modern replacement and this is a cause for even more concern. Efforts to correct this situation have been hesitant for reasons well known to this subcommittee. Note, however, that the Commission proposal protects the long planned 1986 IOC which was also the IOC of the last Administration's basing plan. In my judgment, if the current deployment plan is rejected by Congress the new IOC for a modern ICBM will slip five or six years while the requirement will be even more pressing and the strategic imbalance more destabilizing.

Mr. Chairman, my closing comments relate to the Soviets and their actions—past, present and future. You and I have had the opportunity to observe their polemics, subterfuge and progress for many years. We have seen them evolve from a third-rate status as a military power, totally dependent on their massive land forces, to a first-rate superpower capable of projecting military force of any variety worldwide. In retrospect, twenty years ago we saw them adopt a long-range plan to achieve military superiority. We watched their massive capital investment year after year, certain that it could not be maintained. Yet it was. We watched their skillful participation in the processes of arms control and détente without compromise of their Master Plan. We see them now at arms control negotiations, determined to extract the maximum price from us while carefully protecting and even expanding the massive military establishment and posture they have in being. We see no let-up in their military research, arms production or deployment of modern military forces. We have no logical basis for expecting any change in Soviet behavior until events convince them it is no longer either necessary or in their interests to maintain present courses of action.

The President's Commission has developed a series of recommendations that combine near-term production, mid-term development, and far-term research with resolute arms control efforts to produce a coherent course of action. The President has approved the Commission's recommendations. Strong Congressional support will regenerate the national consensus needed to convince the Soviets it is in their interest to redirect their energy and join the U.S. in serious efforts to negotiate significant strategic force reductions. This subcommittee and the Senate Armed Services Committee have taken the lead on past issues of great national concern. It is time for them to do so again.

Sincerely,

RICHARD H. ELLIS,
General, USAF (Ret.).

Senator **Exon.** Mr. Chairman, do I have a copy of General Ellis' statement?

Senator **Warner.** No, but the Senator will be provided a copy at the earliest opportunity.

Senator **Exon.** Thank you. I would like to have it.

Senator **Warner.** Indeed, maybe the witnesses would like to have a copy.

Senator Nunn, do you have any opening comments?

Senator **Nunn.** No, Mr. Chairman. I am just delighted to have all of our witnesses here today. I have great admiration for each of them and look forward to hearing from them.

Senator **Exon.** The same for me.

Senator **Warner.** Senator Cohen?

Senator **Cohen.** No opening statement, Mr. Chairman.

Senator **Warner.** Very well.

General Jones, as senior man, would you like to lead off?

STATEMENT OF GEN. DAVID C. JONES, USAF (RET.), FORMER CHAIRMAN, JOINT CHIEFS OF STAFF

General **Jones.** Mr. Chairman and members of the committee, it is good to be back with you. I do not have a formal statement. I would like, with your permission, to make some very brief remarks and then turn to my colleagues.

I will give you my bottom line right now. If I had been a member of the MX Commission, I would have signed the report. That does not mean that I agree with every word in the Commission report. It is like when you vote on a bill, you may not agree with certain parts of it, but, overall, would support it. And I am sure there are many Commission members that felt the same way.

VULNERABILITY

There has been a great discussion, of course, on vulnerability of the Minuteman and on the window of vulnerability, and we do have the vulnerability problem with the Minuteman. We have the vulnerability of our older bombers being shot down, as Senator Nunn was saying, over the Soviet Union.

But I do not think we have a window of vulnerability in the sense that it is increasingly possible that the Soviets would launch a surprise attack against the United States.

Senator **Warner.** Do you mean in an overall sense?

General **Jones.** Overall, when you take all aspects of it together. A lot of people will take "window of vulnerability" and assume that the Soviets have a first-strike capability, they could disarm us—and it is very destabilizing.

I do not think a first-strike capability is achievable by either side or either side could come close to it. If we just had Minuteman today, I still think it would be unlikely, even under degraded conditions, the Soviets would attack. There are a couple of reasons:

No. 1, you are never sure in war how things are going to work, and usually in war, things work far less well than you had thought.

When one side does much better, it is usually because they messed up less than the other side. And this is——

Senator **Warner.** Not unlike political campaigns.

[Laughter.]

General **Jones.** So there would be always that uncertainty as to how well you would do in an attack.

And second, although the United States does not have a policy of launch under attack, the Soviet Union, as you well know, has got to take into consideration, would the President wait for 30 minutes?

We should be worried and concerned about our systems. We ought to be working on trying to have a stable situation, but on the other hand, we should not get overly worried about a window of vulnerability. Very frankly, my greatest concern was command and control. It was not the vulnerability of Minuteman, it was command and control, because that is the one area that, if it is fragile, impacts on all weapons systems. Minuteman vulnerability impacts on only one leg of the triad.

I think there has been a tendency—and I probably shared in it—to overemphasize in selling the MX on the vulnerability of Minuteman. The Commission tried to put it in balance.

The Commission gave four reasons for the MX and then added two. Arms control, natural will and cohesion, redressing the quick hard target kill capability, and aging Minuteman are the four they outlined. Then they said additionally, we need the throw weight in case of antiballistic missile defense with the requirement for decoys and so forth, and as a backup for the shuttle.

If you stripped away the first two, from a pure military standpoint, I believe this country has far better ways to spend $16 billion than on 100 MX's in the Minuteman holes.

REDRESSING QUICK HARD KILL CAPABILITY

And if you look at the other military reasons, one is to redress the quick hard target kill capability. First, when the MX is fully deployed, if every missile would survive, you could destroy about 500 of the more than 2,000 hard targets in the Soviet Union with the MX force.

And if that were your main objective, then you could go to something like an improved Minuteman, which would be at a very substantially lower cost. And if aging of the Minuteman is a concern, then 100 MX's do not solve the problem of aging of the Minuteman. An improved Minuteman solves the problem of aging of the Minuteman.

I am not advocating an improved Minuteman and I think Harold Brown was right in his statement appended to the Commission report that if we do not go with the MX, we are not going to end up with an improved Minuteman. We just kick this can down the street time after time. So I am not advocating that.

WILL AND COHESION

On will and cohesion, for more than 30 years, this Nation worked quite well in a bipartisan way on nuclear strategy. We had the confidence of the American public and the European public that we were maintaining an adequate strategic force, that the umbrella extended into Europe, that we were clearly interested in arms controls and we were trying to reduce the tension. We were trying to come to some agreement with the Soviet Union.

This consensus started to erode in the late seventies, because of concerns by many as to the shift in the strategic balance; the lack of modernization on our part; the heavy modernization by the Soviets; by all the controversy and fragmentation over the ratification of SALT II; the first neutron bomb decision, when we left our allies hanging out on a limb by not consulting, not any discussion on cancellation.

And then we continued to erode confidence in 1981 by a lot of loose rhetoric; fighting and winning nuclear wars; protracted nuclear wars; fighting limited wars in Europe; shots across the bow; buy a shovel to cover yourself with dirt in a nuclear war; and we will not negotiate with the Soviets until they do a lot of things. And we scared friend more than foe.

Until then there really was not a major nuclear debate in this country. There was during SALT, but then it died out. But now it is raging from the pulpits, we have it in Europe, and we gave impetus to the debate.

The Soviets were seen as impediments to arms control for most of the 30-some years. Now many think that the United States—and this is an anomaly, because the Soviets are the most intransigent in dealing in arms control, but many think we are the impediments to arms control.

The MX is about the worst example on how to handle the situation. We had a consensus in this country. In 1981, I pleaded not to reject the basing mode that had been approved and had the bipartisan support of the Congress, despite some environmental concerns, until an equal or better system of basing was found—one that had credibility and would have support on a bipartisan basis.

But very frankly, I think the cartoons beat us, and all of the criticism of the racetrack, which is a political term. We had rejected racetrack years ago, and it was no longer the system under consideration.

So the basing mode was rejected. Then superhardening of the Titan holes or putting MX's in big airplanes was advocated. There was no credibility with those proposals. I had to testify when I was still on active duty and I stated that I thought that this was not the wise way to go.

Dense Pack did not have a chance, because of the uncertainties and because of the lack of credibility. But what we need is——

Senator WARNER. Let me interrupt you. I think it is important to point out that I think Dense Pack got a speedy but not a fair trial. This committee never spent an hour on it.

General JONES. I do not think it had a chance. I think you are right; it had a speedy but not a very fair trial by everybody, and not handled well at all.

ARMS CONTROL

So we do need to get the country back together. Confidence that we are really not only maintaining an adequate nuclear posture, but that we are certainly interested in arms control. I think the President is, but the perception is not there that the administration is interested in arms conrol. But I am convinced that he is sincere.

On arms control, the last administration was often naive and thought that arms control would almost do everything. That through arms control we could solve our problems and we should exercise unilateral restraint. I think this administration is also naive in thinking that somehow, that through arms control, we can induce the Soviets to make major reductions to get what is perceived to be a big imbalance back to an equal level between the two countries. Our proposals would impact more upon the Soviet Union than on the United States.

In SALT II, there were some moderate restrictions on the Soviets and very few of us, as evidenced by the fact that we are proceeding with all of our programs and still abiding by SALT. There were some additional restrictions on the Soviets, but I must admit that they were very moderate.

The proposal to limit to 850 ballistic missiles, 5,000 warheads, and not more than half of those 5,000 be on ICBM's, would mean the Soviets would have to cut back in thousands of warheads on their ICBM's and we could continue with all of our programs and phase out a handful of Minuteman or Poseidon systems.

COHEN-NUNN BUILD DOWN PROPOSAL

I think there is merit in what the administration is proposing, but it must be coupled with other actions. And I endorse, despite some of my colleagues in the Pentagon having great reservations about it, the Cohen-Nunn build-down—the build-down using the definition of the SALT weapons. Modernize by turning in two warheads for one. This would eventually build down in that both sides would have fewer warheads. It would have a greater impact on us than the Soviet Union, in that they are at a better point in the modernization cycle than we are.

So in isolation of any other action, it would be advantageous to them. It should be coupled with a modified proposal by the administration which would drop the 850 missile restriction because of our initiative to go to a single warhead.

Finally, as I pointed out, I support deploying 100 MX, not as just a bargaining chip, but for will, cohesion, and arms control. Frankly, if it is disapproved, I think there is little hope for getting any arms control agreement and the failure will be blamed in the rejection of the MX, rightfully or wrongfully.

If the MX is approved, that does not mean that arms control is guaranteed. But what I would like to see is a cohesion in the country by having those that have concerns about MX give it a chance and those who think that we are not moving far enough on arms control have some influence in getting a more balanced position and a better arms control posture with regard to our discussions in Geneva. Then we might be able to bring the country together.

Thank you, Mr. Chairman.

POSTURE OF FREEZE MOVEMENT

Senator WARNER. General, would you add one other element to this very informative summary, and that is the posture of the freeze movement as it relates to this?

General **Jones**. Yes, Mr. Chairman. I find it interesting that both ends of the political spectrum are trying to put the nuclear genie back in the bottle. On the one hand, there is a freeze movement that used to be a fringe element and now in the Gallup Poll, it has the support of a majority of the populations in the United States and Europe. But that group wants to freeze now, so weapons systems will atrophy, eventually leading to the banning of the weapons. Hopefully, this would lead to the elimination of nuclear weapons.

On the other hand, we have those who say, we can come up with a complete defense. We can make nuclear weapons nonoperative in that none can hit us if we provide defense in space and defense against bombers and cruise missiles and all the rest. That is a separate subject but I am a great skeptic as to its practicality.

But on the freeze, I have great reservations. I think there are great pitfalls in the freeze. I am not so concerned about a strategic imbalance. We both have 25,000 nuclear weapons. We both have close to 10,000 strategic weapons. You can argue as to who is ahead. There are those who say the Soviets are ahead because they can kill more Americans than we can kill Soviets, but there are other aspects of it.

First, the freeze is ill-defined. I do not think you can freeze everything. Do you freeze putting a new gyro in the B–52 because the old one fails or because a piece of electronic countermeasure equipment is not working? The definitions have been very poor.

CONTROVERSY OF VERIFICATION

In SALT II, the greatest problem we had in the negotiations was verification. You can recall in the hearings before this committee, the great controversy on verification. There were many in the Congress that were concerned that we were not able to verify SALT II.

The Joint Chiefs recognized that there were some questionable areas, but our judgment had been that there could be adequate verification. There were only a handful of items to be verified. The Soviets were very, very much opposed to being cooperative in telemetry or in any type of intrusive inspections.

I think in the freeze, you would have hundreds of items to verify and hundreds of locations. There are some nations in this world that we think have nuclear weapons. They are very open societies, but we cannot verify that they have nuclear weapons and even their own publics are not sure that they have nuclear weapons.

So I would have serious reservations about being able to verify without having very intrusive devices, which the Soviets have shown no interest in. And even if you could have intrusive devices, with the tremendous space of the Soviet Union, it would be easy to hide things. And therefore I think there are other ways of achieving progress in arms control rather than go to a freeze.

Senator **Warner**. Thank you very much.

General Kent, we will go in order of seniority here.

STATEMENT OF LT. GEN. GLENN KENT, USAF (RET.), FORMER DIRECTOR, WEAPONS SYSTEM EVALUATION GROUP

General **Kent**. Mr. Chairman, it is my privilege to appear before this committee on this very important subject.

I want to underline what General Jones just said about the necessity for cohesion in this Nation; that this Nation can ill afford the debate and equivocation on the question of modernization of our strategic forces.

DEFENSIVE AND OFFENSIVE CAPABILITIES

The Commission has established a most important goal and that goal is that there will be a stable balance between the offensive strike capabilities of strategic forces on the one hand and the ability to withstand attacks on the other. That is, that our defensive posture should be such that after near exhaustion of the attacker forces, the defender would still be able to attack important targets of the attackers.

Further, the Commission's goal is to achieve this stable balance through arms control at low levels in offensive striking power. They have stated a goal to which I think everyone aspires.

The Commission has also defined some guidelines to be followed while achieving these goals. Those guidelines are as follows: That taking into account the aspirations and goals of the Soviet leaders and the overall correlation of forces worldwide, it is not in our national interest to let the situation worsen whereby the Soviets have the capability to threaten our leadership and important elements of our strategic forces and we, in turn, pose no such threat to them.

The Commission has also set a strategy and a course for achieving these goals, and this course is designed to achieve these goals while still adhering to the guidelines. This course involves timed and sequenced decisions that will be taken in due time as the situation unfolds.

Briefly, that course is that we will undertake to strengthen our defensive postures. Very hard shelters and hardened mobile missiles are means to this end. At the same time, we will begin to deploy the MX missile. The deployment will insure that we can adhere to the guidelines set forth regardless of the progress of arms reductions.

Thus, this deployment will foster serious negotiations for substantial reductions. The Soviets will know that a one-sided correlation of offense and defense totally in their favor is not an alternative that they can expect to achieve.

In sum, the Commission has established the goal of stability to be achieved through arms control at low levels of offensive power. It has defined guidelines concerning what threat we should pose to the Soviets and the Commission has set a course to achieve those goals. I think it is in our national interest to adopt the goals, the guidelines, and the strategy and the course of action and stay with it.

DEPLOYMENT OF RV'S

One central issue inherent in this whole debate is whether it is, or it is not, in our national interest to deploy RV's, whether they be on MX or not, to alleviate the situation where the Soviets pose a threat of a prompt attack on our ICBM's and we do not in turn possess such a threat to theirs.

The Commission has made the judgment that it is desirable to pose such a threat to the Soviet forces. There are others, of course, that argue the other way. Those that argue the other way seem to always paint the scenario that if we have a force that poses a threat of a first strike, that somehow or another that this threat has absolutely no effect unless it is used in a first strike.

I do not subscribe to that construction of the problem. Certainly, the threat of first strike has an overreaching effect on linkage to Soviet aggression in NATO. It has something to do with the umbrella. Things are never quite as clear, as some would paint it, that the only time such a force has any effect whatsoever in the course of human events is that it is actually used as a first strike.

So in that context, it is not appropriate to say that the only way for the MX to have an effect on Soviet actions is that it be used in a first strike. That is simply, I think, a far too simplistic construction of the problem.

I might make one final point. Many make the direct connection between 10 RV's per missile and 10 RV's per site. Now, this of course need not be so. With redundant shelters, we can, on our own, determine the number of RV's per site.

Others have made the connection that 10 RV's per missile somehow equates to a first strike. What really counts in the currency of strategic forces is the number of RV's, the yield of each and the accuracy of each. It is of little import whether they come in packages of 1, 3, or 10.

I thank you.

[The prepared statement of General Kent follows:]

PREPARED STATEMENT OF LT. GEN. GLENN A. KENT, USAF (RET.)[1]

Mr. Chairman, it is my privilege to appear before this subcommittee as you consider the very important issue surrounding our strategic forces.

The report by the President's Commision on Strategic Forces sets forth a most perceptive formulation of our broad national objectives, strategies, and overall capabilities required to underwrite these strategies and objectives.

The report also establishes a course as to the various programs that should be pursued with respect to the deployment of U.S. ICBMs. It is hoped that this will serve as the foundation for gaining a consensus on these programs. At this point, it is particularly important that a general course be set that has broad support and will be sustained over the next two decades.

The report provides a clear articulation of the several considerations that frame the deployments of our strategic forces. I would like to elaborate on these considerations briefly.

First, there is the potential military offensive power and political impact of deployed forces. This involves the potential military capability that our strategic forces pose to the USSR. It also involves the "equality" of forces as viewed by the Soviets and our allies. These factors are a prime consideration as to the total number of RVs to be deployed and as to their effectiveness against certain classes of targets. The Commission has correctly identified this problem as being separable from the problem of "survivability."

Secondly, there is the problem of survivability. This consideration dictates the type of basing. The prime consideration is to make the "price to the Soviets to attack" so high that they are deterred from any such attack. With respect to our ICBMs, the "price to attack" can be made very large by two modes: (1) By deployments of weapons on mobile hardened vehicles on continuous patrol and hidden in large areas; (2) By deployments in fixed sites where the "price to attack" can be significantly increased:

(a) By increasing the hardness of each site. A reduction by one-half in the radius-to-effect of an attacking Soviet weapon increases by a factor of 4 the Soviet effort required.

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[1] Glenn A. Kent is a senior staff member of The Rand Corporation. Comments in this statement are the author's views, and not necessarily those of The Rand Corporation or its research sponsors.

(b) By adding more sites. Additional sites are a straight multiplying factor to the price. Using the concept of "redundant" sites, the United States can increase the number of sites for survivability without increasing the offensive military potential. This allows for the "offense" to be decoupled from the "defense." This could be particularly important in an arms control agreement that limits the offense (as it should) and does not limit the defense (as it shouldn't).

(c) By decreasing the number (per cent) of reliable RVs that arrive at the target. This can be done through countermeasures such as ABM or fratricide.

(d) By introducing "virtual attrition" in the effective payload of Soviet missiles like the SS-18. For example, in order to avoid the threat of "prompt fratricide," the Soviets might be forced to reconfigure the front-end of their missiles in such a way as to significantly reduce the effectiveness of each missile and, thus, require substantially more weight of effort to achieve desired effects.

Third, Public Acceptance—We must take into careful account how our deployments interface with the public. This is true, both with respect to operation in peacetime, and in any crisis. In this connection, we should be very cautious about depending on deployments that require re-deployments in a crisis on our highways. More will be said on this later.

Fourth, Arms Control—We must strive for arms constraints and reductions where the correlation of the "ability to attack" (by either country and particularly the Soviets) and the "price to attack" is such that there is no attack. That is, through the combination of our basing for survivability and through arms control to reduce the offensive power of each side we must strive to achieve this correlation.

In this connection, it is also desirable, though not mandatory, that no element of our forces present "favorable" exchange rates to any Soviet attack. That is, it would be desirable if the "price to attack" for each element of our force were significant and we should aspire to gaining such a posture if reasonable opportunities are presented to do so.

Lastly, we must ensure that arms control agreements should be designed to *reduce* offensive power. The currency of offensive power is the number of RVs and their size and accuracy. At the same time, arms control agreements should not hinder survivability. Arms control proposals in the past have not adhered to these basic principles. For example, constraints on numbers of launchers/missiles is not the best way to constrain the offensive and can have an adverse effect on survivability. Such constraints can operate against reducing the value at a particular site. We should never be in the position that arms control agreements stifle redundant shelters or single RV missiles.

Fifth, Types of Operations—We should avoid deployments that depend on so-called "strategic warning." There are three distinct functions involved: (a) Indications of enemy action; (b) An assessment (judgment) as the enemy intent; and (c) Decision and action by those in authority. The indications will always be there—particularly in retrospect. The assessment as to enemy intent is more difficult. The decision to re-deploy may be hard, particularly if such a decision causes re-deployments that appear provocative and are associated with considerable public interface just in the moment of crisis.

Sixth, *Economics*—Our deployments must, of course, consider the cost.

The Commission has set a course that has three major aspects:

(1) Deployment of 100 M-X in 100 MM silos.
(2) Engineering design of a single RV ICBM and associated basing.
(3) A validation program with respect to silo hardness.

With regard to the Single RV Missile, particular emphasis should be placed on determining the feasibility of the hardened mobile launcher. What is required is a launcher that: (1) Has reasonable over-land mobility so that the deployment area is not unduly constrained; (2) Is reasonably hard (20 to 30 psi) so that the "price to the Soviets" to bombard the deployment area is large; and (3) Can be procured and operated at reasonable cost. It will take considerable ingenuity to meet all three conditions and, thus, the recommended emphasis on the validation of such a concept.

It is also urged that considerable emphasis be placed on validating very hard silos. The report has carefully set forth on page 9 the utility of such hardening: Increased hardening will raise the weapon requirements of the attacker and the risk of attack for some years.

Also, very hard shelters allows for close spacing, and close spacing is quite useful when redundant shelters are to be deployed. With very hard shelters, fewer shelters are required; and these fewer shelters are close together; and the public interface is dramatically reduced. Also, close spacing can pose a threat of prompt fratricide and induce a "virtual attrition" in the effectiveness of the payload of Soviet missiles. Close spacing also can assist defenses. All of these effects serve to raise the "price of attack."

The above effects offer the promise of achieving deployments so that one-half or more of the payload of an SS–18 would have to be expended to have a high damage expectancy against one of our sites. The fraction of payload could be somewhat higher if "virtual attrition" from threat of fractricide is taken into account.

Thus, with a modest number of redundant shelters, the "price to the Soviets to attack" could be of the same order as their entire ICBM force if constrained by arms reductions. For example, with a "price to attack" per shelter of one-half an SS–18, 400 shelters would have a total price to attack of 200 SS–18s. Thus, the price to attack this one element of our ICBM force could be near the total Soviet ICBM capability of around 250 SS–18 equivalents inherent in the 2,500 ICBM RVs that would be allowed in the U.S. START proposal.

The validation of this opportunity for down-stream modernization should be given considerable emphasis. Specifically, the validation effort should be directed to determine whether a shelter that can be procured for some amount of money like $30 Million each can exact a price to attack of upwards of one-half the fraction of a Soviet SS–18 missile. Once such a capability has been validated, then the question of whether to exploit this opportunity can be addressed.

There is one last point to be emphasized with regard to shelters. Redundant coupling offensive power from defensive resistance to attack. With redundant shelters can play a key role in arms control agreements. They allow for decoupling offensive power from defensive resistence to attack. With redundant shelters, one can increase the defensive posture without increasing the offensive posture, and stable deployments can be reached at low levels of warheads.

But, most importantly, the Commission has set the goal and the course for achieving the correlation between the offensive power to be deployed by both countries as determined by arms constraints and the resistance of these forces to attack as determined by our basing. Central to achieving this goal is the process of bilateral arms constraints and reductions. The course set by the Commission involves time-sequenced decisions that provide renewed hope of eventually achieving this correlation and, thus, stability.

It is clearly in our national interests to adopt the goals and sustain the course set forth in the report by the President's Commission.

Senator WARNER. Thank you very much.

General Burke?

STATEMENT OF LT. GEN. KELLY BURKE, USAF (RETIRED), FORMER DEPUTY CHIEF OF STAFF (RESEARCH AND ENGINEERING)

General BURKE. Thank you, Mr. Chairman. I am glad to be here before this subcommittee on this critical issue. I realize this is my seventh consecutive year of testimony to this committee and its predecessor on these very difficult and vexing questions, as you have sought to find a solution to the land-based ICBM question that is on the one hand technically and militarily sound and on the other politically feasible.

Senator WARNER. If I might note, the only thing that is missing is John Culver, and indeed he was a powerful spokesman in many ways and a great thinker on these subjects. And I for one, miss his participation.

General BURKE. He certainly knew where he stood on the issues.

But with that background, it was very easy for me to agree with what I think is a key statement in the report of the President's Commission, which says:

> The Commission realizes that its recommendations will probably not fully satisfy any one of the many contending groups and individuals inside and out-

side government that have staked out claims to particular approaches to strategic modernization and arms control, much less all of them.

I think that is a masterful understatement, and it really is the nub of the problem. And in addressing this chronic inability to develop and sustain a consensus, I think the Commission did very important work, not only in outlining an integrated set of proposals that would offer some solution to our problems, but in further proposing this in a manner that hopefully would allow us to build a broader base and more bipartisan support, that would give us a continuing consensus not only at home but among our allies.

Imbedded in the Commission's report I think are a set of goals that are awfully important, and I think they have to be thought of as an entity and not as individual components. First, of course, and obviously is the maintenance of military capability clearly sufficient to deter the Soviets from attacking us or our allies, either nuclear or nonnuclear, or, alternatively, successfully using the threat of that force to coerce the United States or our allies.

Second is in the effort to modernize our forces, to increase stability and to create conditions that would encourage the Soviets to do likewise, while at the same time pursuing arms control objectives that would also improve stability, hopefully at lower levels, but most importantly to improve the stability. The integration of the arms controls efforts in the strategic force modernization program is something that has just cried out for doing for many years, but for some reason we have not done well at it.

And finally, the development of a broadly-based bipartisan consensus for both arms control and force modernization, to insure that we do have the necessary support of our own citizens and that of our allies.

I can endorse all of those goals and recommendations, and I could also endorse the general concept contained in Senate Resolution 57, the mutual balanced build-down of strategic nuclear forces.

Earlier reference was made to the term "window of vulnerability." I would hope that a review of my 7 years of testimony would confirm my belief that I never once used that term. I do not think I did. I think it was far too simple a description of a very complex problem.

But it struck me, in thinking about the findings and thought that went into the President's Commission report on the one hand and the Senate Resolution 57 on the other, that the confluence of thought offered by those two documents perhaps provides us with a window of opportunity, and that opportunity would be to for the first time integrate in a sensible way our arms control planning and our strategic force modernization and to develop the consensus to stay the course.

And I thank you, Mr. Chairman.

Senator WARNER. Thank you very much.

Gentlemen, I will ask a few questions and then we will turn to other members of the panel.

I have consistently asked this one question, and I hope my reputation does not indicate where I am coming out individually on the issue. But, recognizing the forces at work in the Senate today on the budget, I am concerned about the availability of funds in this fiscal year coming up and the future ones to fund the enormity of the strategic modernization program. And I need not enunciate to you gentlemen the components of that program. You know them well, because indeed you had a major role in putting that together for two Presidents.

MODERNIZING OUR NUCLEAR ARSENAL

But should we look at, if we are faced with a budget constraint, a leapfrog approach, namely of not going to the MX but to an accelerated development of the small missile? It certainly would be a clear indication to the Soviet Union that we are strong in our intentions of modernizing our nuclear arsenal, that is the deterrent capability of this country.

When you look at the totality of the programs and when you look at the confluence of the IOC's—roughly speaking, the IOC's of these new systems range from about 1986 through 1993 to 1994, a period of 8 years, cruise, Trident II, Stealth, MX, and Midgetman, together with the C^3 modernization, which was something General Jones for many years advocated and which I am delighted to see that the administration and others are supporting.

So just a general discussion, if you would, on the pros and cons of a leapfrog operation. General Jones?

MIDGETMAN MISSILE

General JONES. With regard to the so-called Midgetman, I have concerns with some of the proposals for early operational dates. We originally rejected a small missile because we could not get any appreciable hardening together with mobility, and therefore the Soviets could barrage large areas and we would have to disperse throughout the country. If we put missiles on highways there could be serious problems.

You cannot hide missiles in a bakery truck. You have to have a lot of security with the system. You would have a security tail and then you would have antinuclear weapons group demonstrating behind it. I think it would just be very difficult problems, and therefore it was rejected. And you recall the mobile Minuteman, putting them on trains, was rejected.

The new concept has some hardening of the system, the armadillo concept, which provides enough hardening to where you could keep the missiles on our big military bases or in isolated areas. You do not have to take them out into the highways.

I think this is going to be one of the biggest technical problems, and I am concerned that if we all of a sudden rush to a Midgetman we might end up with something that you would have to put out on the highways. So I would question whether or not we could get anything before the early nineties.

DEFENSE BUDGET

With regard to your discussion in the days ahead on the defense budget, if we end up with 5 or 6 percent real growth, the strategic forces should not be sacrosanct.

We ought to maintain a balance. The one thing that I urge you not to do is what has been done too often in the past, that is nibble at everything so it does not appear to hurt. This type of action messes up all programs, cuts a lot of things in readiness. Both Congress and the Pentagon tend to cut readiness when budget reductions are made.

We need to face up to some real tough decisions and within those tough decisions include the strategic forces.

Senator WARNER. So if I might summarize, it is your concern about the technical ability of this country to overcome the problems of interfacing with society and the mobility problems to co-locate these things on military bases. That is the principal reason not to try to go to an accelerated program at this time and leapfrog MX?

General JONES. Yes. I think there are technical uncertainties right now. I think the country can solve them, but the question is do we solve them so quickly that we have leapfrog?

I think it is realistic to have the Midgetman in a survivable mode some time in the early nineties, probably not before 1992.

General BURKE. I think an additional concern, Mr. Chairman, is that while I would expect no great difficulty in getting a consensus to support the notion of beginning the research and development on the so-called Midgetman, that is a long way from having a consensus to deploy it in some specified basing mode at some specified location. All that is yet to come.

We are at about the stage we were 7 years ago. There are a lot of unanswered questions and they are tough questions, technical questions of how and where you do base that system. There are also questions that have to be thought through very carefully in terms of the verifiability of that system.

VERIFIABILITY FOR ARMS CONTROL

Senator WARNER. That was my next question, and you may as well lead into that. Is there an ability to verify this type of system on both sides, such that it would lend itself to an arms control arrangement?

General BURKE. There were real problems there and I think a fair generalization is that the smaller and more mobile the missile is, the harder it is going to be to verify. And we have to, I think, satisfy ourselves that we have a plausible concept of verification to go with the system before we deploy it, unless we have abandoned the arms control, pursuit of arms control, or we have abandoned our long-held belief that verifiability is an essential ingredient of arms control.

That worries me, and I would also worry a great deal about the immediate effect that this would have on the Russians and on our allies. I would think if I were in charge of the Soviet arms control negotiating team and that were the course the United States took, I would be fairly cynical that they were really going to do that Midgetman, too. It would appear to me that the United States could follow a course up to the point of actual deployment and then back off, and I would be a little less motivated to go to Geneva and sit down and start talking seriously about negotiations.

I think the European allies are going to have an enormous difficulty continuing the modernization of their TNF if we do that.

General KENT. Well, before, I think, we should put too much emphasis on the single RV missile, we would have to be very explicit how it is to be based. And in the past there is one basing that I think deserves merit, and that is a hardening mobile transporter on military reservations on continuous patrol in peacetime, and all of those are necessary ingredients.

In the past, people have said that we can expand that deployment area in crisis. I find that a dangerous concept—that we do so on so-called strategic warnings.

There are three ingredients to strategic warnings. One is the indication. That we will always have. Then there is the aspect of an assessment of enemy intent, that will always be ambiguous. And then there is also the matter of decision and action, and action where there is a downside. That particularly right at the point of crisis we now increase the public interface by expanding the deployment area.

So I find that a very dangerous concept to think about—that we would deploy our missiles in some area and then expand that area upon strategic warning. I also agree completely with what General Jones said, that we cannot believe that we can have our missiles out on patrol on the highways with any kind of public interface in peacetime and think that that is a viable concept.

People have also talked about putting single RV missiles in hardened sites, very hard sites. I do not think that is a compatible match. This becomes evident if you go through the arithmetic of deployments using these hard shelters that people aspire to. If they are as good as they say, then the right number of RV's to have per site is around three. It is overkill then to have only one RV per shelter.

With a single RV missile with non-redundant basing, the number of sites equals the number of missiles, and equals the number of RV's. We deploy RV's based on our desired offensive power. The number of shelters has to do with our defensive posture; the number of RV's has to do with our offense.

In the single RV missile route, those are all locked in step. So if we deploy 1,000 RV's, it is in 1,000 shelters and 1,000 missiles. And we do not need that many shelters. We need a third that many if they are of the very hard type.

So to repeat, I see only one concept that deserves serious consideration, and that is the hardened mobile transporter on military reservations or in other remote areas, on continuous control in peacetime. And if deployments violate any of those elements, I think that you should view the whole affair with caution.

Senator Warner. Thank you.

Senator Nunn?

Senator Nunn. Thank you, Mr. Chairman.

TYING MX TO ARMS CONTROL

I want to pursue one thought with all of you. From what I have heard here this morning, I believe that both General Jones and General Burke have indicated that tying the MX to arms control might be an avenue that we should at least think about.

In thinking about that, General Jones, suppose we came up with a package and we said we are going to authorize one-third of the MX program, just hypothetically. I do not know whether the right number is a third or a quarter or a half. And we would reserve the other two-thirds, hypothetically, to determine what it is, what happens in arms control.

If you could envision that kind of approach, what kind of price would you feel would be reasonable to expect from the Soviets in order to defer or to cancel the production of the other two-thirds of the MX program? What would be—generally what avenues would you even be thinking about?

And then I will ask General Burke and General Kent the same question.

General **Jones**. I think it would take very substantial movement on the Soviet part. In all the arms-control proposals to date, there has been virtually no restraint on U.S. modernization, whether it is in SALT II or in START. We would continue with Trident and MX and B-1 and the cruise missiles and so forth. It would be hard to say what would be worth it from the Soviet standpoint. Enough movement by them to be worth our canceling out some movement on their big ICBM's.

Senator **Nunn**. You are talking about existing missiles, SS-18's and SS-19's that are out there now?

General **Jones**. I do not think it would be enough for the Soviets to say, we will not deploy any new missiles if you do not deploy any MX's.

Senator **Nunn**. I agree.

General **Jones**. So they would have to make some movement, particularly with their large ICBM force, in order to make it worthwhile for us not to deploy the additional missiles beyond 35 or 50 or whatever.

Senator **Nunn**. General Burke, do you have thoughts on that?

General **Burke**. I would agree with the General on that. I would think that reductions to make that trade fair from our side would have to include some reduction from their SS-17, SS-18, and SS-19 force.

Senator **Nunn**. General Kent?

General **Kent**. Their present ICBM force equates to—in terms of SS-18 equivalents—about 600. If we could reduce that number by half——

Senator **Nunn**. Say that again, if you do not mind.

General **Kent**. Their present ICBM force in SS-18 equivalents is about 600. That means their SS-18 force as it is now is, in effectiveness, about half their total ICBM force.

Senator **Nunn**. Six hundred what?

General **Kent**. Six hundred SS-18 equivalents.

Senator **Nunn**. You are talking about launchers?

General **Kent**. I am taking into account the SS-18 has 10 what I will call standard RV's on it.

Senator **Nunn**. All right. If we go to an RV count, let's call it an SS-18 type RV count. What is that figure?

General **Kent**. I do not have that. You see, I have taken into account these other RV's that are very large, and I weigh them according to their actual weight.

Senator **Nunn**. You are talking about 600 launchers, though? Is that what you are talking about, SS-18 equivalents?

General **Kent**. Their total force is about equivalent to 600 SS-18 launchers or missiles, whichever you want to say.

Senator **Nunn**. So you are saying if we were to go with one-third of the MX force and say to them, if you would agree not to deploy the new missile and to take down 50 percent equivalent of your present SS-18 type launchers, we would not go with the other two-thirds?

General **Kent**. I might even be not that restrictive, and say you can have new missiles as long as your total ICBM force does not exceed the capability, the equivalent of 250 SS–18's or 300 SS–18's.

Senator **Nunn**. I am not hearing you.

General **Kent**. The idea is that we have a constraint on their total ICBM force, that it does not exceed the equivalent of 250 to 300 SS–18's. You see, I am using SS–18's as the currency. That does not mean they have to dismantle all of their SS–18's. They can have modernization just as long as we invoke at the same time on the modernization the 2 for 1 build-down.

Senator **Nunn**. General Jones, do you want to comment on that, or General Burke? What I am trying to grasp is some concept. For instance, if we were to say to them, OK, we have got 2 for 1. We are going to put in, say, a third MX's times 10, that would be 350 warheads. We would be prepared to take out twice that, assuming you would agree to 2 for 1, but further than that, it seems to me there has to be another dimension here in case they do not modernize. We have to say, if we are going to restrain on the other two-thirds, then we want you to do the following things, and what I am grasping for is the following things. What would you have in mind?

General **Burke**. I have in mind the reduction from either the SS–17's and SS–18's or SS–19's. I do not have a precise number.

Senator **Nunn**. Could you give some thought to it?

General **Burke**. Yes.

General **Jones**. I do not have a precise number. I think I would go a little differently than General Kent, because we are equating 65 MX's with 1,000 of their missiles. They have about 1,400 missiles today with about 5,000 warheads. If you equate that to 600 SS–18's, they would have to get rid of everything but their SS–18's, or they would have to get rid of their SS–18's plus a lot more. If I were the Soviets, I would not think that would be a very good trade for 35 to 70 MX's. It seems to me it has to be tied into a broader issue of arms control and overall progress in arms control, as opposed to narrowly restricting the two numbers.

But I would have to give some thought as to what the negotiating strategy ought to be in that regard.

MX AND TWO TRACK PROPOSAL

Senator **Nunn**. Well, without backing away from a number count, then, does it make sense to any of you or all of you, or would each of you respond to this, does it make sense with all of the concern about arms control, and General Jones, you said the main purpose of the MX as far as you saw it was not the $17 or $16 billion. That was not the way you would spend it if it were not for the psychological effect and the arms control leverage. Does it make sense to tie this MX to some kind of two-track system to you?

General **Jones**. Yes. We have two negotiations, one with our own Government and one with the Soviets. And I would insist on a two-track proposal. I have not thought it through exactly how I would link the MX. I think you link the broader, the whole modernization and whole strategic programs on both sides in arms control. If you make progress in that, and they exercise some restraint by pulling some things out, then we exercise some restraint by either pulling things out or not deploying them further. I would put it in a bigger package rather than take the MX aside and say it against a certain number.

Senator NUNN. You are trying to put it in a broader context.

General JONES. Yes.

Senator NUNN. General Kent is shaking his head. Do you agree with that?

General KENT. I agree with that. The numbers that I gave you will recognize are quite consistent with START levels, and in the way I framed it, it is probably less restrictive for the Soviets than what is inside the protocols to the START negotiation.

Senator NUNN. General Burke?

General BURKE. I would agree with the General's notion that it ought to be taken in that broader context, but we have to also remember what it is that really frightens us about the Soviet systems, and it is not their bomber force, and it is not their submarine force, and it is not their non-MIRV'ed ICBM's. It is those SS–17's and SS–18's and SS–19's that are really the troublesome things.

Senator NUNN. Well, what we would be saying, in effect, is trying to search for some formula where we say we will try to be restrained on hard target kills so as not to threaten your whole force, if you will back up some and not threaten our whole force on the land. Is that right?

General BURKE. That would be the principle, yes.

Senator NUNN. General Burke, did I understand that you endorse the general concept of 2 for 1?

General BURKE. Yes, Senator. I think that is a very logical way to embrace that problem, and I think among other virtues it is a very simple and easily understood approach, and underlying it will be obviously some very intricately complex details that will have to be thought through very carefully.

DEALING WITH DIFFERENCES IN MODERNIZATION

Senator NUNN. Just one of those up-front details General Jones mentioned, and I will invite any of you to comment on this, and then my time will probably have expired, but we have got the first problem with the 2 for 1, and I am one of the coauthors of it, but one of the problems we have got to find a way to deal with is, how do we account for the differences in our modernization requirements now and their modernization requirements?

Do you have any thoughts on that, the fact that we would be modernizing first, and therefore if this concept were to be put into effect without some details flushed out, we would be reducing quicker than they would in terms of warheads?

General BURKE. I think it would not be unreasonable to attempt to negotiate an allowance for the relative states of modernization, but for the long term, I think it is an excellent principle to adhere to.

Senator NUNN. General Jones?

General JONES. I think an allowance would be very difficult unless there were something else, but it is certainly worth pursuing. On the other hand, you might look at some coupling with what is in START already with some reductions in overall numbers of ICBM's. Both may make some reductions but they would have a greater impact on the Soviets than on us, as compensation for the 2 for 1 build down which has greater impact on us.

So, it needs some thought of linkage of advantages for both sides in trying to have some offset.

Senator **Nunn**. General Kent?

General **Kent**. Well, Senator Nunn, I think in the build-down concept you have exactly the right currency, and that is RV's, I agree with General Jones. By coupling this with some forcing function in arms reductions, then it somewhat relieves the problem that they can sit there and not modernize, and if we modernize, we would be subject to the build-down.

So I think that some form of coupling to broader arms control where the RV's and the throw-weight associated with those RV's is the currency could accomplish your purpose.

2 FOR 1 BUILD-DOWN CONCEPT

Senator **Nunn**. So if you took as the greatest threat the 2 for 1 that it would give an incentive to the Soviets never to modernize? You would have to back off and ask yourself in the long run is that bad or is that good?

General **Jones**. I think in the long run it is good. In the short term, you have a problem. There might be some provision that within the 2 for 1 build-down concept, by 1990 both sides would have reduced by 1,500 warheads or 2,000. I am not sure what the number would be, an intent that both sides would come down by 1990 rather than their just sitting there while we had to come down because of the aging of our force.

Senator **Nunn**. In other words, 2 for 1 as you modernize, but if you do not modernize, you have to come to a certain level anyway.

General **Jones**. Yes; some number less by 1990 or whatever date.

Senator **Warner**. Senator Cohen?

Senator **Cohen**. Thank you very much, Mr. Chairman.

Let me welcome the three witnesses. I notice, General Jones, you look much more rested and much more fit, and, I suspect, much more affluent than when you testified before this panel in the past, and I can say the same for my friend, General Kelly Burke. There is something to be said for being out of the tank, I guess, because you both look terrific compared to the last time I saw you. Then, you were coming under heavy gunfire from some members of this committee.

I guess part of the difficulty is that we have either the fortune or the misfortune of having picked the fruit from the tree of knowledge. It would be much simpler not to have to debate CEP's and megatonnage and hard target kill capabilities and Mark 12 warheads, because it becomes much more confusing. It is almost like walking into a world of mirrors or a room full of mirrors, where you cannot always distinguish reality from reflection. Then, when you have that multiplication of reflection, it produces a good deal of confusion and indeed chaos at times.

But coming back to some of the circular ironies that seem to be involved, following up on what Senator Nunn was suggesting, there are those, principally the Commission, who argue that without the MX, that we may never move toward arms control itself. On the other hand, there are those who fear that by moving toward MX, there never will be a move toward single RV's or mobile RV's or indeed to arms reduction. Rather they fear this would simply be a mask for the administration to move forward with the MX deployment, never having any serious intent to do anything else.

USING MX AS A POLITICAL LEVEL

Ironically, I think we seek to use the MX as a political level against the Soviet Union. Ultimately, it may come to that conclusion that the presence of the MX becomes a political or military level against the United States. Namely, the continued production and deployment of the MX may drive us to seek alternatives, rather than to simply build more, whether it is 50 or 100 or 150, that may serve as an incentive for us to move in different directions.

So, it is one of those circular ironies in this whole debate which seems to be emerging. I think, General Kent, you indicate we could have the greatest first strike capability in existence; namely, the MX, Trident II, Stealth, or B-1, and if you have a command and communications vulnerability—General Jones, perhaps you mentioned this—it is useless. The converse is not necessarily true, however. Namely, if you have a relatively secure or invulnerable command, control and communications, that does not necessarily mean you have an effective deterrent. So the tuth lies somewhere, I guess in between. You have to have a much more capable C^3 system, but also have to have a more capable deterrent as well.

And this brings me to the discussion of political will. This is a fundamental question we have to ask—what price political will—because, General Jones, as you have stated, stripped of all of the other arguments, in purely military terms, there are better ways to spend the money.

I suppose that indeed there has been some suggestion that we could go to hardened silos, but that does not really make a great deal of sense, either, does it? In other words, we might be able to assume that those breakthroughs were out there. We might be able to increase the hardening of the silos, but even that could be overwhelmed rather easily.

In other words, if you had a very hard silo, and the Soviets could simply put one 25 megaton missile on an SS-18, that would cure the problem, would it not? In other words, they would create a crater large enough to destroy any hardening of any silo.

General JONES. I think the Commission points out that ultimately you would be able to destroy any target, but there is an advantage if the Soviets went to a single 25-megaton warhead on an SS-18 rather than 10 one-megaton warheads. So I would not dismiss some additional hardening, but we ought not think of it as the answer to the survivability problem.

Senator COHEN. Well, I guess I raised that because what I am suggesting to you is that without the arms control component, it really does not matter whether we talk about going to mobile hardened missile launchers on military reservations. As the Commission also pointed out, that does not give you that much, either. Going to hardened silos does not give you that much if you do not have some limitation on the number of RV's being produced and deployed.

So, it has to be an integral part of this debate to have some sort of arms control factor in here, in this equation. Otherwise, no matter what we do or they do, we simply escalate it to a higher level of spending, whether it is $15 billion of $20 billion or $40 billion. It really does not give each of us either survivability or stability without that arms control feature involved.

General Jones. I find a very interesting echo from SALT II. People criticized SALT II because it was dependent on arms control. The new proposal on trying to get some survivability depends on arms control also.

Senator Cohen. So this is what Senator Nunn, I think, was suggesting, that perhaps there is some way in which we could link this arms reduction to this whole MX discussion. I was interested in that. First of all, perhaps a couple of quick questions. It was suggested yesterday or the day before yesterday that the Mark 12A does not possess the sufficient yield or accuracy to constitute a hard target kill capability. Is that your understanding?

General Jones. No; there is a point on a curve, and obviously the greater the yield, the greater the hard target kill. Accuracy, however, means much more than yield. And so with the Mark 12A it will be one point. If you have a little more yield with the same accuracy it will be a little bit more, and it may take two weapons to kill a target, but they would still kill a hard target. They will not kill them 100 percent, but no warhead will kill with 100 percent assurance.

General Burke. Of course, the accuracy is not really determined by the re-entry vehicle. That is one factor, but not the dominant one. It is the guidance system.

AGING OF MINUTEMAN FORCE

Senator Cohen. Now, with respect to the aging of the Minuteman force, what is the relative status of those missiles now? I am told, for example, that the design itself is 15 years old, but a number of the missiles are quite a good deal newer than that. For example, we shut down the Minuteman production line, as I recall, in 1977. We were producing missiles during that period, I think 1975 through 1977. So we have about 100, I believe, Minuteman missles of the more recent vintage, do we not?

General Jones. Yes; we have some that are not even in the hole, new ones we have not put in the hole yet, 50 to 100 or somewhere in that range.

General Burke. There are 550 deployed Minuteman III's, and they were built generally between 1970 and 1977.

Senator Cohen. But we have about 100 that have not been deployed.

General Burke. That is correct.

Senator Cohen. They are sitting in storage.

General Burke. They are spares.

Senator Cohen. And we have ones that are aging, and cracking, and there is no good understanding of how to predict that. You just have to have what is called an age out surveillance program, and from time to time we find problems with various stages of the Minuteman and we correct them.

General **JONES**. But the Minuteman II is a lot older than the Minuteman III, and it is still doing fairly well.

Senator **COHEN**. That is right. As a matter of fact, the Commission recommends replacing the Minuteman III, which is a lot newer than the Minuteman II, with the MX missile. I was surprised, but I assume that there are reasons. The rationale for that is that the MX would be more compatible with the silo of the Minuteman III than it would of the Minuteman II. I do not know, but I make that assumption, because if we are worried about old, obsolete missiles, it seems to me you would want to replace the Minuteman II rather than the Minuteman III. Is that wrong?

General **BURKE**. It is not wrong. I think another factor is replacing MIRV'ed systems with MIRV'ed systems.

Senator **COHEN**. So what? What does that get you? It seems to me I would much rather replace a non-MIRV'ed system. I am really talking about increasing my hard target kill capability. I would rather put 10 for 1 rather than 10 for 4 or 10 for 3, would you not?

General **BURKE**. Well, certainly, you get more numbers by doing that. I think there was also an attraction to go to that particular piece of geography, because it is the hardest geography in the system, and it just happens that Minutemen I and II are located there.

Senator **COHEN**. Well, my time is up, but I would like to conclude with a question, General Burke, you indicated in response to Senator Nunn, that you felt that we could deploy a smaller number of MX's, and still use that as a lever with the Soviets to indicate that you would not necessarily go to full deployment if there were arms control negotiations. Do you think that is feasible militarily?

General **BURKE**. I think there is leverage available from each potential increment of deployment of the MX at levels below 100 and levels above 100, so long as it is believed.

COUPLING ARMS CONTROL WITH SURVIVABILITY

General **KENT**. Senator, could I respond briefly to a point you made? I agree completely with you about the necessity of coupling arms control with our survivability. Without some kind of constraint on arms control, there is little prospect in any regard, whether it is mobile missiles on hardened transporters, or other deployments.

I would like to point out, though, that if we, by one means or another, do force the Soviets to one RV per SS–18 and the arms control agreement is written in terms of equivalent SS–18's, then we have made a great step forward, so that with modest numbers of shelters, we have the correlation that I talked about earlier between his offensive striking power and our defensive posture.

That is one point that I hope to make today.

Senator **COHEN**. I do not have the time to debate that issue, but we have not discussed the concentration of their ICBM's versus the dispersal of our strategic force among the three elements. There is an equation which has not yet been really discussed fully in my judgment. Thank you, Mr. Chairman.

Senator **WARNER**. Senator Exon?

Senator **EXON**. Thank you, Mr. Chairman.

Gentlemen, welcome, and thank you for coming. Let me cover two or three matters with you, with the brief time we have.

You are military experts, and we respect you for that. Aside from any other considerations—this question was first asked by Senator Warner when we opened our hearings on this matter with General Scowcroft and Secretary Brown and others.

BASING FOR MX

Aside from any political considerations, if each of you had the decision to make as to how best to base the MX from the perspective of the best interests of the national defense of the United States and the free world, would you be proceeding with the basing as recommended by the Commission for 100 of these in Minuteman silos, or would you prefer some other basing, either the multiple-protective shelters or some other deceptive mode or the Dense Pack basing system?

In other words, aside from every other consideration, how would you as a military expert feel it was in our best interest to base the MX, regardless of what number we produce? And we can start with you, General Jones.

General **Jones**. Some form of deceptive basing, and there could be variations to that.

General **Burke**. Unfortunately, of the many options we have available, turning the clock back is not one, but if we could, I would go for some multiple-protective shelter system. I think during the process of that we learned a great deal more about the value of hardening, and we probably would redesign that to use a lot less land than the original concept.

Senator **Exon**. General Kent?

General **Kent**. I would use very hard shelters, deceptively based.

Senator **Exon**. Thank you.

The overwhelming weight of all of the testimony that we have received from military experts such as yourselves has been that given the reality of the situation, and I think your recommendation has been that we have to—we should go along with the Commission report as endorsed by the President.

Now, I am just curious. Without violating any confidence, I assume that you have had conversations with your counterparts, with your associates. And you need not give their names if you do not wish to. Do they all agree, as we seem to be getting the overwhelming testimony before this committee, that this is indeed the way to go, or is there some skepticism and some outright opposition among some of your friends or associates over your years of service?

Let me put it another way. I have had person after person, not in the military, come up and tell me they think that MX basing in Minuteman silos is the craziest thing they ever heard of. I am not getting any of that kind of talk, at least on the record, from those like yourselves that we respect very much in the military. Is there any opposition among your counterparts?

DECEPTIVE BASING PREFERRED

General **Jones**. I think if one were king for a day, he would come up with a different way of doing things. We just gave our thoughts on this with regard to deceptive basing. I believe that the top military leadership is sincerely convinced that the Commission's way is the best way to try to get a consensus and a group together, even though each individual might have separate views.

But we cannot go back. I know Kelly Burke is not doing it, and I am not doing it, even though I would have preferred some sort of deceptive basing. A lot of people in the building are not experts in this area. They have not spent much time on it. There are only a few people that have spent a lot of time on it. But I would say there is a general feeling that the Commission is on the right track.

Senator EXON. General Burke?

General BURKE. That is my impression, Senator. I think most of us are very impressed with the work of that Commission, and given the disparate set of characters that participated in it and the strong wills and strong intellects, I was very pleasantly surprised to see them reach a unanimous conclusion, and the conclusion, I think, is the best that could be done at this time and under these circumstances.

Senator EXON. General Kent?

General KENT. I support the course set by the Commission. I think though, that we have to see how matters unfold in the future, and in that regard I think we should not give up right now the option to finally deploy the MX, if required, in some modest redundant basing in hard shelters.

I think part of the problem of the debate has been acronyms. We say MPS. In English that means multiple protective shelters. In the acronym form it may mean 4,600 shelters in Utah and Nevada. And that is not what I am talking about.

We say CSB. That means fratricide. In English it just means hard silos closely spaced. When you sweep away the Madison Avenue phrases, you gain a better perspective. There is an MX out there in a silo. Who can be against hardening the silo? If it is harder you can put them closer together and cut down on public interface. And redundant shelters are a useful thing. So when you put it in English, I think it sweeps away a good deal of the emotion in this matter.

Senator EXON. General, my question was, have any of your friends and associates in the military, past or present, ever indicated to you they felt that putting the MX in Minuteman silos was not the current thing to do? What I am saying is, there seems to be a general consensus which is almost diametrically opposed to 85 percent of the testimony that we have heard in this committee in the past, and makes no sense to put those in vulnerable silos, and yet all the military people now have seemed to come around, past, present, and future, to say, well, that is the best we can do.

My question is, are there any of your associates, the people you have confidence in, that say this is a crazy thing to do?

General KENT. Is it a crazy thing to do? If by that you mean not to follow the course set by the Scowcroft Commission, then if they say that we should not, I do not really think they are experts, because they are not facing the realities of the situation.

Senator EXON. In other words, what you are saying is that even though there might be some people you are closely associated with who do not endorse the Scowcroft Commission report, they just do not know what they are talking about?

General **Kent**. Well, I do not think——

Senator **Exon**. They are as knowledgeable as they should be?

General **Kent**. Well, they are not as pragmatic as they should be.

HIGH TECHNOLOGY LASER PARTICLE BEAMS

Senator **Exon**. OK, thank you. One last question for each of you. The President proposed in his recent TV speech high technology lasers and particle beams for antiballistic missile system based either on the ground or in space or both. What is your evaluation, each of you, quickly, with regards to whether that is practical, and if so, how soon?

General **Burke**. The idea or concept of having a defense against these awful weapons is one that appeals to all of us, and America's strength is its mastery of technology, the ability to develop and apply advanced technologies, which we do better than any country in the world. There are some, I am told, recent developments of beam energy devices that are quite encouraging. I think this is a fruitful area for research.

At the same time, I have always tempered that with the belief that it is going to take a long time coming, and it likely will not be a perfect system, and it likely will not be a panacea, so I have always argued that we should pursue those things in a balanced way, and not put money in that faster than the technology will let it be applied intelligently.

Senator **Exon**. Thank you.

General Jones?

General **Jones**. I am for continuing the research and development of lasers and other applications that could be used in defense and space. I think any system is going to have considerable leakage, and therefore, the idea that we could expand it to protect our cities is not practical of my judgment. Ballistic missile defense could provide good survivabilty to hardened ICBM's but there would be some leakage.

For example, many of the advocates of the system say that they think they can shoot down 80 percent. Well, that is 20 percent that come through, and that is still, if they launch 10,000 warheads, that is 2,000, or if it is 90 percent, that is 1,000.

Second, that system would not handle bombers and cruise missiles, and we are having a hard time getting just a few percent attrition with the defense forces in Europe. In history, if we came close to 10 percent attrition, we had a great defense system, because the enemy had to keep coming back and back to the target, and could not afford to lose 1 of every 10 airplanes.

So, to try to get close to perfection in Europe and in the United States, both in space and in the air breathing with Stealth coming along, and eventually the Soviets will have Stealth, the challenges for complete defense, I think, are tremendous.

People have said, well, you are underrating American technology and cite that we went to the Moon. We did not have another group working hard to prevent us from going to the Moon. We had the physics, we had nature to overcome, but we did not have an adversary that was using the same technology to overcome what we were doing.

So, I am a skeptic, but that does not mean we should not continue with research and development.

Senator **Exon**. General Kent, do you have any differing viewpoints?

General **Kent**. No, I have exactly the same viewpoint. I might add at this point that I would remind people that even given such a concept, arms control is necessary.

Senator **Exon**. Thank you.

My time is up, Mr. Chairman.

Senator **Nunn**. Could I pursue one question on that very briefly, Mr. Chairman?

Do any of you believe that we should visualize these space-based lasers and other wave-type defenses as population protectors?

General **Burke**. No, sir.

General **Jones**. No.

General **Kent**. No.

Senator **Nunn**. Have you talked to any military experts in this area, any of you, that believe that we really ought to be visualizing these as population protectors? Do you know any defense expert or expert in this area that believes that we really ought to be looking at it in that vein?

General **Kent**. None that I respect.

Senator **Nunn**. I will not ask you to list them.

[General laughter.]

HIGH FRONTIER

General **Jones**. If you look at High Frontier, and there are retired military people involved in the High Frontier program, they have some city protection included, and they have a civil defense program. They are not talking about saving all cities, but their aim is to reduce the fatalities. There would be some defense against ballistic missiles coming at cities, but with the leakage, some civil defense would be required.

I have not talked to anybody on active duty about this but have discussed it with some High Frontier people. In answering Senator Exon's question about colleagues, I think we were all talking about active duty. You could get some that are retired. My guess is that Admiral Gayler, if he had been here, would have questioned the MX, but I do not want to put words in his mouth.

Senator **Exon**. I am delighted with that. That is the first indication my question was broad. Since all of you are retired, we still respect you—we also tend to respect others in your category. But thank you. At least there is one that might have objected.

General **Jones**. Adm. Stansfield Turner has written an article that opposes the MX, so I think we are talking more the active duty, but in the retired, you can get all kinds of answers.

Senator **Exon**. Good; thank you.

Senator **Warner**. For those that may be interested, the subcommittee will soon conduct a hearing specifically directed at this subject of the weapons described as space defense.

Senator Levin?

Senator **Levin**. Thank you, Mr. Chairman.

I presume Admiral Gayler could not make it for some reason.

Senator **Warner**. That is correct, and he is being accorded every opportunity to join us at a later session.

General **Jones**. I do not know what he would have said. I am just saying, from his past writings and comments on the whole nuclear area, that I would have expected he would have had reservations, but wait until you talk to him.

PUTTING MX AT BOTTOM OF LIST

Senator LEVIN. General Jones, I have heard you some time ago say that of all the new systems that we have got going, Stealth, B–1, MX, I think Trident II, that you would, if forced to choose, would have put MX at the bottom of that list.

General JONES. That is correct, Senator Levin. That was in the context of our discussion of putting the MX in either superhardened Titan holes or putting it in a big bird in an airplane.

Senator LEVIN. Some survivable based?

General JONES. I did not think either one was survivable, and that is why I put it in the last priority. I did not think either one of those concepts survivable, and so testified before the Congress. When I was testifying on my reaction to superhardened Titan sites or putting the MX in a big bird, I said under that basing concept I would put it last.

Senator LEVIN. I see. What is your present view? Where would you put MX in a nonsurvivable fixed hole compared to the other modernization efforts that are going on? If you had to put one last, where would you put it?

General JONES. If I had to put one last from a purely military standpoint it would be the MX, for the reason I stated earlier. But you have to bring in the arms control and the public perception and the rest, and then it gets much fuzzier. But pure military, ignoring arms control, ignoring this cohesiveness of will, I would put it last, clearly.

Senator LEVIN. What you are saying is that from a military perspective, you would put it at the bottom of the list. If we reached a different conclusion from you on the arms control perception issue, the cohesion issue, presumably that would add to the reasons to put it last. Some of us think that from an arms control point of view, it may have the opposite effect.

Senator Cohen mentioned a new interesting wrinkle on that aspect this morning, but your answer is, it would stay the same.

I have also heard you speak on the question——

General JONES. But I think it would be a great mistake from the standpoint of arms control. Therefore, I strongly advocate proceeding.

Senator LEVIN. From an arms control point of view, I think the real challenge is, How do you turn an MX into some arms control, if it is not that great militarily, it is marginal militarily? From the point of view of prompt hard target kill, it is probably, from other perspectives, militarily negative, at least in my view, in terms of hair trigger, in terms of destabilization. But there is some marginal military utility in the eyes of some.

The question is, How do you turn that into a real plus from an arms control perspective? And you are saying that you would support some kind of linkage; if we could figure out a way to link proceeding with the MX with pushing the Soviets to an arms control agreement that would be a positive, from your perspective? Is that correct?

General JONES. That is correct.

Senator LEVIN. Would you think it might also be positive if we could use the MX, not to sort of push them to the table, assuming it has got that kind of value, but if we could also somehow use it to challenge them to the table, that if we could somehow reverse the atmosphere that has been created and put some propaganda value on our side for a change, if we could challenge them in some way by our proceeding with the MX, assuming we proceed with it, would that be a plus as well?

PUTTING SOVIETS ON DEFENSE IS AN ADVANTAGE

General JONES. I cannot right offhand see what that challenge would be, but I would be willing to consider it. But it is hard to see what challenge could be made.

Senator LEVIN. Assuming that you could devise a way that you could proceed with MX, assuming we do, that also challenges them, and puts some propaganda on our side of the ledger, would you then say that if you could devise such an approach, that that would be a plus?

General JONES. I think any time you put the Soviets on the defensive in this propaganda war we have going on, that is an advantage. It depends upon how much you have to give up in order to put them on the defensive. I just do not see an approach that does not give up so much that it would not be counterproductive, but we ought to look at any ideas in this regard. But I cannot think of any right offhand that I would advocate.

Senator LEVIN. You at one point, I think, were talking, if not today, earlier, about what our situation would be strategically if all we had were the Minuteman, if we did not have any subs, and we did not have any ALCM's, and did not have any planes. How would you describe our situation? Do you think the Soviets could readily, or could they take a risk of attacking even if we did not have all of those other systems?

General JONES. I think we would be in a very dangerous situation if we had only Minuteman, in that there would be a much greater likelihood of war in Europe. I was putting it in a very narrow context of the Soviets launching an attack against the United States to disarm the Minuteman. I think they would still be cautious in that regard.

Senator LEVIN. Why would they be cautious?

General JONES. Because, No. 1, there is always the uncertainty as to how well systems will work. Things do not go well in time of war. You are not sure what a U.S. President is going to do in 30 minutes. And I am not advocating that we go to a launch on attack policy, but they have to take that into consideration. A Minuteman-only force would be an inadequate strategic force, and very destablizing. It was only in the context of saying there is no such thing as a disarming first strike capability potential where you can knock enough of the other side's weapons out so he does not then have a retaliatory capability that can wrought great destruction.

But that is a very, very narrow deterrent from the surprise attack. It would be a dangerous situation to only have that.

Senator LEVIN. If we had both the MX and the Midgetman ready to deploy now, assuming we had them both ready, and assuming the Midgetman were in a sufficiently hard basing mode, so that you could keep it basically on military reservations, would you proceed with both now, or would you just go with MX now or Midgetman now?

General JONES. Senator Levin, one thing that I have tried to avoid is answering hypothetical questions. Obviously, if we have both of them ready, there would be a lot of other different factors in the world. The strategic forces would be different. We cannot get the Midgetman before the nineties, and therefore it is an academic or hypothetical question.

Senator LEVIN. Well, we answer hypothetical questions, we respond to hypothetical attacks all the time, do we not? We have these hypothetical scenarios. I am asking you the hypothetical, if you did have Midgetman in the present.

General JONES. But that is hypothetical in only one sense. There is a possibility of attack even though we think it is extremely remote. There is no possibility of having the Midgetman before many, many years.

Senator LEVIN. But there is a possibility at some point of having both Midgetman and MX ready to deploy. If we did not go with MX now, we could.

General JONES. But they are many years apart.

Senator LEVIN. And so my question is, if we were at the point where we had both MX and Midgetman ready to deploy, and we could be at that point if we delayed MX, and if the MX, if the Midgetman were available to be placed into a basing mode which was sufficiently hard so that it could be on our military reservations, then which one would you——

General JONES. I do not see this country delaying MX 9 years and then having a possibility of deploying it. I just do not see that circumstance having any possibility of arising. That implies we put MX on 9-year hold, and then make a decision between the two of them. And they have different considerations. A point General Kent made on the verification of the Midgetman has to be taken into consideration, the whole aspect of it. So we are not going to be faced with that choice.

COMPARING RELIABILITY OF UNITED STATES AND SOVIET STRATEGIC FORCES

Senator LEVIN. This is for General Burke, if you could, or General Jones, or General Kent. Could you compare the overall reliability of our strategic forces with that of the Soviets?

General BURKE. Speaking of the land-based ICBM force, I would say they are quite comparable. I would think we have a more reliable bomber leg, and a more reliable submarine leg.

General JONES. I do not disagree with that.

General KENT. I agree.

Senator LEVIN. So you all would agree that the land-based force is comparable in reliability, and that our sea-based and air-based forces are more reliable?

General JONES. Ours are better.

Senator LEVIN. Yes, ours are better.

General JONES. And that is, I think, a broad definition of reliability.

Senator LEVIN. Indeed, thank you. My time is up.

Senator WARNER. Senator Nunn, you indicated you have a question.

Senator NUNN. Thank you, Mr. Chairman.

WINDOW OF VULNERABILITY

In our previous panel here, Dr. Stone raised a question that I think is worthy of consideration. He raised the situation, if I can recapture it, that the Commission said that we really do not have the window of vulnerability in the broadest sense now because either the bomber force or the ICBM force could escape. They could not devise an attack on both. But that when the Soviets develop a counterforce, when they develop something similar to the Trident II, that at that stage they would be able to launch and hit both simultaneously, and at that stage two legs of our triad would indeed be vulnerable.

Now, he concludes from that assumption that we ought to do everything possible to avoid either side's going to counterforce at sea. Could you, General Burke, comment on the first, when the Soviets, when and if they get counterforce at sea, hard-target kill at sea, that we will indeed then have two legs of our triad vulnerable, and second, his suggestion that we would be well served to head off that counterforce at sea with some kind of arms control on both sides?

General BURKE. Counterforce at sea would not be harmful providing you had a mechanism that guaranteed it would be as distant as the existing land-based systems are, that is, if you could insure that submarines were deployed in a manner where the flight time of their missiles would be the 30 minutes that we now have with our ICBM's.

They would have about the same consequences as land-based ICBM's but if you let those submarines get to 10 or 12 minutes away from their targets, you do add an additional element of instability, because you now have moved into an era where any sort of launch on warning doctrine has to be questionable.

Senator NUNN. You would have to have a lot more of your bombers really on alert, and a lot more of them in the air, would you not?

General BURKE. Yes, but I do not quite understand his point about accurate SLBM's threatening bomber bases. The threat to bomber bases is from close-in SLBM's, and they do not have to be particularly accurate.

Senator NUNN. What are you saying, that the protection we have now is that both SLBM's and ICBM's cannot really hit at the same time? You cannot go after bombers? That is what the Commission said, you cannot go after bombers with SLBM's without letting your ICBM's escape, and vice versa. And he is saying, once you get that hard-target kill at sea and you get it in with a reasonable number of minutes, then you are going to have both of them susceptible at the same time.

General Jones, did you want to comment on that?

General JONES. If you stayed with the current B–52 force unhardened for the most part, with its escape survival problems, then I think there is some truth to that. You could have impacts on both ICBM silos and on bomber bases before airplanes can escape. The B–1 is being designed, and the Stealth would also, to have escape survivability from submarine missiles. I do not mean sitting in Charleston or right on the coast, but in the inner part of the country.

So, the modernization program on the bomber force is designed to not get into that position where it is vulnerable or it continues to be vulnerable to a submarine attack. Today, what the Commission is saying has more impact than it will in the years ahead as we get better survivability. We still get more time if we can be based in the middle of the country or their submarines are stationed well out from our shores.

I think there are real problems in two regards. One is restricting submarine deployments, where they go, and second, restricting accuracy improvements. Those are two of the hardest things to do.

Senator NUNN. Well, if you could do it, would it be worthwhile trying to avoid counterforce at sea on either side, Is that the next MIRV challenge of the 1980's, Are we going to look back 10 years as we are now looking back on MIRV's as per the Commission report and say we should never have allowed counterforce at sea, even though we were leading the way?

General JONES. I do not know. I think it is an issue you could debate both ways. I do not think it is clearcut. Also, it is one of the hardest things to do.

Senator NUNN. Thank you.

FIRST STRIKE DEFINITION

Senator WARNER. Gentlemen, the definition of first strike is taking on increasing importance in this debate, and we asked the prior panel to give their individual definitions of what is a first strike, and General Jones, since you have such a competent corporate memory on this subject, could you trace to the best of your recollection the origin of this term, and what it means to you today?

General JONES. To the best of my recollection, it came up way back when we had a dominant capability in the Strategic Air Command. We had a monopoly, and there were some that were worried about our buildup because that gave us a first strike capability. Well, in those days we had a first strike capability, because the Soviets did not even have a second strike capability. Over the years, as we have improved our counterforce capability, the first strike argument keeps coming up.

I think it is defined in different ways. The way that I think it really meant is that one side can essentially disarm the other side so that the retaliatory capability is so small that the attacked nation will not react. Some take it to the point where an aggressor launches only against military targets, destroys a large amount of the nuclear military capability on that first strike, but does not strike the cities. The attacker holds back an element, saying, if you launch your few remaining weapons, then I will launch against your cities; therefore the defender is supposedly deterred. You have disarming in a different way. You have not destroyed every weapon, but the enemy is down to very few.

I think that is an act of ultimate irrationality, of thinking that you could make such an attack and come out unscathed. I worry about the Soviets being able to destroy our targets and our not being able to destroy theirs, but it is not based on the first strike consideration. I do not think MX is in any way a first strike weapon.

How can 100 MX's with 1,000 warheads be a first strike weapon against a country that has 25,000 nuclear weapons?

Senator WARNER. General Burke?

General **Burke**. Yes. I would phrase it about the same. I think in order to have what I would call a plausible disarming first strike capability, one side would have to have such an overwhelming force that he could imagine that he could destroy virtually all of his opponent's forces or a sufficient number that his opponent would not consider retaliation, and that neither side approaches.

Senator **Warner**. General Kent?

General **Kent**. You asked about the historical legacy of that word. I can recall, and I think it was the year 1962, that there was an active debate by the Secretary of Defense and the JCS. It was put in the terms in those days about a splendid first strike.

Senator **Warner**. What was that word?

General **Kent**. A splendid first strike, meaning exactly that. It would be a disarming first strike. In later times, the word has been, I think, corrupted to have a much narrower definition having to do sometimes with just the idea of hard target kill. This construction, I think, is counterproductive to understanding what we are talking about.

General **Burke**. In cruder terms, I have always compared this to coping with a hornet's nest. It is not something you want to destroy half of or even three-fourths of. You had better get it all.

Senator **Warner**. Let me ask this question quickly. Increasingly the argument has been made that there is no need for improved hard target kill capabilities on the part of the United States because should the Soviet Union be so foolish as to initiate a strategic nuclear attack, there is no reason to believe that they would benignly wait for our surviving hard target kill retaliatory ballistic missiles to impact upon the forces they held in reserve. Could you comment on that, General?

General **Jones**. I think that is an oversimplification. First, there are a lot of hard targets in the Soviet Union that are not missile silos. There are nuclear storage sites, command and control sites. There are a lot of others. They have a reload capability on many of their missiles. You do not have to totally destroy the silo, but you need to do some very substantial damage to prevent the reload. I do not equate quick hard target kill with first strike.

Senator **Warner**. Any other comments from the panel members?

General **Kent**. I wanted to make that point earlier. There is the construction that hard target kill increases the likelihood of war. Some play out a very stylized scenario to make this point. I think it is oversimplistic to do so. The fact is that if we have a threat that is not incredible against certain targets in the Soviet Union, then the Soviets must frame their behavior accordingly. So the construction that hard target kill causes war, I think, is far overdrawn.

Senator **Warner**. General Burke?

General **Burke**. Well, I feel the same. I do not see how it could be imagined that the MX in the numbers we are talking about would constitute a plausible disarming first strike capability. At the same time, I do see an advantage to some deployment of MX in any basing mode in that when the Soviets address their strategic force modernization, they are going to be a little less inclined to keep putting that force in silos. And we ought to encourage that tendency, because for a given level of investment they can put about three times as much force in a silo as they can in a bomber or submarine.

Senator **Warner**. Gentlemen, we will equally divide the time remaining between my colleagues, Mr. Exon and Mr. Levin.

Senator **Exon**. I have no further questions, Mr. Chairman. I just wish to thank my friends for being here. They have been very helpful in response to my questions. I have no further questions at this time.

Senator **Warner**. Thank you. Senator Levin?

Senator **Levin**. Thank you, Mr. Chairman.

ARMS CONTROL LEVERAGE

I would like to go into this question of leverage. This arms control leverage that we have. We are not going to adopt a launch under attack policy. General Jones, if your recommendation were followed, we are not going to have a first strike policy, presumably, so we have to look at the number of surviving warheads with some kind of hard target kill capability. If we have 100 MX's with 10 warheads each, that would be 1,000 warheads. If 10 percent of them survive by the time they are deployed, I guess you would be doing all right. That gives us 100 warheads surviving, hard target kill warheads, added to all of the Minuteman III's, the Trident II's, which take a little longer to get there. How much leverage does 100 warheads add? How many hard targets are there out there, 25,000?

General **Jones**. No, over 2,000.

Senator **Levin**. So if they have over 2,000 hard targets, what arms control leverage do we get by adding 100 prompt hard target kill warheads to what we have already?

General **Jones**. First, Senator Levin, the way you phrase your question is the best answer to why the MX is not a first strike weapon or a destabilizing weapon, but I do not subscribe to the idea that only 100 weapons therefore have some deterrent capability. What we are striving to do is to prevent nuclear war and prevent intimidation and whatever blackmail. The Soviets have to consider there are 1,000 weapons, and even though we do not have a launch under attack policy, the Soviets have to know that they are going to have to destroy those 1,000 weapons or most of them before they are launched, and they have an uncertainty as to how capable they are in destruction, and as to whether or not a President will take an action within that 30 minutes.

So, I look at it as 1,000 weapons. I do not look at it as 100, even though under certain scenarios you could get down to much less than 1,000 weapons. But I think it is the impact of 1,000 modernized warheads that gives us some degree of leverage with the Soviet Union.

Senator **Levin**. How many warheads are there on a Trident II?

General **Jones**. It varies. I think the maximum allowable under SALT II is 14. Generally, the numbers are less than that.

Senator **Levin**. The number of warheads?

General **Jones**. The number of warheads.

Senator **Warner**. It is a variable depending upon the needs.

General **Jones**. It depends upon range and other factors. I think the SALT number limit is 14. But the normal number is less than that, based upon load and range and so forth. But everybody knows there are a lot of warheads.

Senator **Levin**. What you are saying, then, is that the MX, you think, gives us—it does not give us first-strike capability because there are so few of them. It gives us great leverage, though, nonetheless. Just the way you found my question answers the problem about destabilization and first-strike capability, it seems to me you cannot have it both ways, either, that either it gives us great leverage, at which point it has got great capability, or it does not have great capability, it does not give us great leverage.

General JONES. I think it has great capability. Also, the Soviets have to recognize that the United States has always the option of continuing production beyond 100. If we do not go with production, we really have no opportunity until about 1990 or 1992 to do much in the ICBM field, while the Soviets have an opportunity to do a great deal in their No. 1 area, and that is ICBM's.

Senator LEVIN. Did we modernize our strategic forces during the seventies?

General JONES. We had very spotty modernization in the seventies. We put in the Minuteman III, which was some improvement over the older Minuteman, and submarines were built. We did very little in the bomber business, and in a relative sense compared with the Soviet Union, we did very little.

Senator LEVIN. We did do some modernization?

General JONES. We did do some, but far less than the Soviets.

Senator LEVIN. The Soviets apparently are testing one or two new missiles. Is there some military advantage to them to do that?

General JONES. I think there is some advantage. You can increase maintainability, reliability, maybe get a smaller missile with the same throw weight if you intend to go mobile. There is some advantage to continuing testing. They have been doing a lot lately.

Senator LEVIN. Does it make any difference to us if they tested one or two new missiles militarily? Putting aside the question of SALT violations, do we care if they test one or two new missiles?

General JONES. I think it would be of concern if they keep modernizing at a high rate, and we do not. Even if we go ahead with the MX, that is but one system with a very moderate number. If they go ahead with two or more new ICBM's, they will stay much more modern year after year than we do. So I think it is of concern if they go with multiple new systems.

Senator LEVIN. My time is up. Thank you very much.

Senator WARNER. One last question. Do you believe that the recommendations of the Scowcroft Commission move the United States closer to launch on warning posture?

General JONES. No. I do not believe so. To put them in the same holes the Minutemen are in today and to be faced with the same situation as we are with Minuteman today, and so it is a capability, but it is not a posture, and it is not a need.

Senator WARNER. Any other comment from the panel?

[No response.]

We have some questions for you to be answered for the record.

[Questions with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR JOHN W. WARNER

CIRCUMSTANCES UNDER WHICH ICBM MODERNIZATION WOULD BE OK

Senator WARNER. To the panel: Are there any circumstances under which you would recommend the modernization of our strategic forces? What would those circumstances be—a reaction to Soviet force modernization and/or intransigence in negotiations? Because of serious reliability and safety problems being manifested?

Dr. KENDALL. "Modernization", if defined as development of prompt hard target kill capability, is a step I oppose in any circumstances. Such capacity ultimately works to our disadvantage. Technical changes to improve reliability or to correct safety problems are welcome and should be given high priority. The United States requires, and will require for the foreseeable future, a secure, reliable second strike capability so as to provide confident deterrence against nuclear attack. Modernization programs to see that this requirement is met are very important.

Dr. SCOVILLE. I would recommend modernization of our strategic forces when needed to maintain the assured survivability of our strategic deterrent as a whole. For example, if our Trident force was becoming vulnerable because we could not keep enough of such large submarines at sea, then we should modernize the SLBM force by adding small ballistic missile submarines. If serious reliability or safety problems were being manifested, we should correct these on a priority basis. However, the MX deployment in existing Minuteman silos does not improve the survivability of our deterrent; in fact it makes more likely that the Soviets would launch an attack against our strategic forces.

Dr. STONE. Our almost 10,000 strategic warheads are so deployed, against a Nation with only 100 major cities, as to be, I think, more than capable of fulfilling those conceptually limited tasks which, in the present era, a strategic force can reliably and usefully fulfill. Accordingly, if "modernization" means marginal technological improvement of forces that are still capable of fulfilling their function, I believe there is a strong presumption against the desirability of doing that. Accordingly, in those cases, I would have to be persuaded, on a case by case basis, of why the modernization was worth the cost.

If, on the other hand, an element of strategic force was unable to be maintained to perform its function effectively or safely because of its age, there would seem to me to be a strong presumption in favor or replacing it with new ones, whether of the same type or a new type, all things being equal.

In fact, however, most strategic forces wearing out were built in an entirely different strategic era, e.g. bombers and Minuteman in the 1960s. For this reason, even their replacement requires some consideration of whether that kind of force still makes enough sense to warrant replacement by forces of the same kind. In this connection, modernization often seems to mean replacement of forces that are not yet unusable but are sufficiently anachronistic to make questionable whether they should be replaced even were they unusable. Here, for example, I would point to the likelihood that the U.S. would be better off putting less emphasis on land-based missiles as these wear out in favor of sea-based forces.

Of all the reasons for "modernizing" our forces, I would put last the mere fact of Soviet "modernization" where this does not have any important strategic interaction with our forces. Our job is to buy what we need and to negotiate arms control where possible to influence what we need. We ought not try to keep up with the Joneses in nuclear weapons when both sides have so much already unless there is some strategic reason for doing so. There is not, to my mind, much international political reason to wage a nuclear arms race if we have what we need. Nor do I think "intransigence in negotiations" is a good reason for buying weapons. Neither side can be browbeaten into agreement and the intransigence is so often so much in the eye of the beholder as to make that method a formula for unnecessary arms competition.

VIEWS RE NEW ARMS CONTROL APPROACH

Senator WARNER. To the panel: Would each of you provide your views on the advisability of pursuing a modification to our strategic arms reduction talks negotiating position as recommended by the Scowcroft Commission, such that the emphasis heretofore placed on launchers is replaced with efforts to limit warheads and throw-weight?

Dr. KENDALL. An emphasis on warhead, rather than launcher, count is advisable because it concentrates on one of the most important quantitative characteristics of nuclear weapons. Because the bulk of Soviet land-based missiles generally have greater payload capacity than U.S. ICBMs, excess emphasis on throw-weight may become a means of derailing nuclear arms limitations negotiations. In addition, throw-weight is less directly tied to military capability than some other measures. If properly verifiable, limitations on warheads would be superior.

Dr. **Scoville.** I concur with the Scowcroft report that greater emphasis should be placed on limiting warheads rather than launchers. It is most important to reduce the ratio of warheads to launchers since this would increase the stability of the strategic balance. The fewer warheads available to attack each missile, the less will be the incentive to launch a strike against the missiles. Unfortunately the MX with 10 warheads does just the opposite and contravenes this recommendation of the Scowcroft report. It will make our deterrent more rather than less vulnerable. I do not believe limits on throw-weight are important if the number of warheads per missile is reduced.

Dr. **Stone.** The issue of whether launchers or warheads is used as the measure of arms reductions is not very important so long as fractionation limits are observed when launchers are counted. Conversely, if warheads are to be counted, and not launchers, there should be constraints on the size of warhead and on the total number of launchers. I do not think that there is any easy formula to encompass the demands of the negotiators and flexibility, rather than rhetorical simplicity, should be the guide.

On the other hand, throw-weight is a fairly serious issue to raise if the intention of raising it is to seek to reduce dramatically the size of Soviet missile throw-weight. (If this is not the intention, one could raise the issue and then factor in the large throw-weight advantages of U.S. bombers.) Dramatic changes in the structure of the forces of either side are not very likely and the measures used should not be drafted in such a way as to require such changes.

ATTACKING LEADERSHIP

Senator **Warner.** Dr. Kendall, on page 5 of your statement you suggest that the policy of attacking Soviet leadership facilities is a discredited one in view of the fact that an attack on such facilities would make more difficult the negotiation of termination of hostilities.

Do you believe that the Soviet Union, in its war-fighting doctrine and strategic targeting policies, plans to exempt from attack U.S. leadership facilities and personnel?

Dr. **Kendall.** There is, of course, no confident way of establishing Soviet plans in this regard nor could we depend on their following such plans were they in fact known. It would appear highly unwise either for the Soviet Union, or the United States, to target the other's leadership facilities or personnel at the outset of hostilities, or in fact, at any stage where control or termination of the conflict might be effected. Targeting leadership facilities risks insuring a conflict without possibility of limitation. Such considerations are irrelevant once the conflict is beyond control and has become a spasm of destruction.

INCREASED IMPORTANCE OF AIR-BREATHING LEG

Senator **Warner.** Dr. Kendall, in view of the importance you apparently attach to the role played by the air-breathing leg of our strategic triad, do you believe it is appropriate for the United States to take such steps as are necessary to insure that the bomber force and its cruise missile systems can continue to penetrate Soviet air defenses?

How would such modernizations be possible if a nuclear freeze were strictly applied?

Do you believe that improvements in Soviet air defense systems should also be frozen under a nuclear freeze? How about antisubmarine warfare?

Dr. **Kendall.** With stand-off weapons—especially ACLM's—coming increasingly into U.S. inventories the pressure to insure bomber penetration is decreasing. My colleagues and I support a bilateral freeze on the build-up of strategic nuclear weapons and on the flight testing of new strategic missiles. Such a freeze would not affect the improvements identified in these questions. Nevertheless freezing U.S. and Soviet improvements in air defense and ASW is desirable to the extent possible but is subject to the important proviso that it be both bilateral and verifiable.

SMALL MISSILE AND SALT II

Senator **Warner.** In your statement you assert quite categorically that the flight testing in 1986 or 1987 of a second, small ICBM would violate SALT II.

In your opinion, has the Soviet Union violated SALT II by flight testing both a medium and a small solid missile?

Has the protocol to SALT II expired in your view?

Dr. Kendall. From material available to the public, we have been unable to determine whether observed Soviet missile tests correspond to development of two new missiles, one new missile, or are modifications of existing missiles. It appears that the Soviets have modified the existing SS-13 missile, and that they are flight-testing the one new missile allowed under SALT II. However, there is not sufficient evidence to provide a clear answer. Should the administration doubt Soviet compliance with the SALT treaty, they have the option of raising their concerns before the Standing Consultative Commission, established to deal with such concerns.

In our view, neither the protocol to the SALT treaty nor the treaty itself have expired. Since the treaty never entered into force, it cannot "expire." Indeed, both the US and the Soviet Union have announced their intent to continue honoring the treaty, as long as the other side also complies with its provisions. The protocol to SALT II was intended to remain in force for approximately two and one half years following the signing of the SALT II treaty. It would be logical to expect that period to begin with the signing of the treaty.

SOVIET RESPONSES TO MX

Senator Warner. On page 2 of your statement you indicate that the unintended consequence of deploying the MX could be to harm arms control since "the Soviet Union could refuse to negotiate, choosing instead to further improve the accuracy of its missiles."

Given your assessment—and that of the Scowcroft panel—that a successful attack against three elements of our strategic triad would be extremely unlikely—irrespective of the accuracy or capability of Soviet missiles—what possible justification could the Soviets have for opting to increase the accuracy of their missile force instead of attempting to negotiate a reduction in our capabilities?

Dr. Kendall. The Soviets could hope that a combination of improved accuracy, ASW breakthrough and improved air defense might at some future time change "extremely unlikely" to "possible". Neither the Soviets nor the U.S. have retreated from technical challenge, especially in the area of nuclear arms. Each side has on more than one occasion, implemented technical improvements that have ultimately decreased its own security. In the present circumstance, negotiations, if successful, would be the best course both for the Soviet Union and the Union States. There is, regrettably, no guarantee that this will be the chosen course.

ATTACKING SOVIET INDUSTRIAL TARGETS

Senator Warner. On page 6 of your statement, you note that a U.S. retaliatory attack could be executed—without prompt hard-target kill weapons—by targeting soft military targets and economic assets such as industrial facilities not located near population centers.

That prompts 2 questions: First, what happens to such a deterrent strategy as the Soviet Union succeeds, over time, in substantially increasing the hardness of its valuable military assets?

Second, how would you define, for this purpose, a population center? If high-priority Soviet military/industrial facilities are located in population centers should they be immune from attack?

What population concentration would be required to make it impermissible to attack such sites?

Dr. Kendall. Planning to attack only soft military targets and remote economic assets is not, in itself, a deterrent strategy. If, as is now the case, the targeting strategy remains in important respects deliberately obscure, deterrence arises from U.S. military capability, not in U.S. intentions. Indeed, even with such intentions clearly announced, the Soviets would have no reason to believe confidently that the U.S. would necessarily refrain, by independent action, from attack scenarios if it had the military capacity to execute. As noted in my testimony, the U.S. has a very considerable, and growing, capacity for hard target kill with bombers, with air-launched cruise missiles, and, if the NATO force modernization is accomplished, will add more ground launched cruise missiles. That these vehicles are slower than ballistic missiles is of little military consequence. In the face of these weapons increased hardening will have little or no practical benefit.

Nothing is "immune" from attack, but no facilities ought to be primary targets if the collateral damage includes destruction of population centers and urban areas containing large "bystander" populations. If deterrence fails the destruction on both sides will be unprecedented and if, as is likely, the conflict becomes uncontrollable the destruction of the target nations will be near total. It is vitally important, in human terms, to adopt priorities that limit the damage, especially collateral population mortality, as much as possible.

AGE OF SLBM FORCE

Senator **Warner.** On page 4 of your statement you indicate that "our sea launched missiles are considerably more modern than the Soviets' and that the 200 Trident 1 missiles which have been deployed over the past few years are newer than virtually all of those in the Soviet submarine force. Are you suggesting that the average age of the missiles and submarines in the U.S. force is less than that of the Soviet strategic ballistic missile force?

Dr. **Kendall.** In the testimony, we did not suggest any comparison between the average ages of U.S. and Soviet strategic forces. We said that U.S. submarines were generally older than their Soviet counterparts, but that our missiles are considerably newer. In fact, almost half of the Soviets' sea-based missiles are older than the oldest U.S. sea-based missiles. We have an edge in both the quality and accuracy of our submarine launched ballistic missiles.

AGE OF ICBM WARHEADS

Senator **Warner.** On page 3 of your statement you assert that the warheads in our ICBM force are about the same age as those on the Soviet ICBMs. While the 300 Minuteman missiles equipped with the Mark–12A warheads may be approximate in age those of the most recent generation of Soviet ICBM warheads, is that statement not ~~some~~what misleading insofar as fully 700 other Minuteman missiles have significantly older re-entry vehicles than those deployed aboard the 5th generation of Soviet ICBMs?

Dr. **Kendall.** We did not suggest that U.S. Minuteman warheads are the same age as "fifth-generation" Soviet ICBMs. The fifth generation of Soviet ICBMs has not yet been deployed. It is inappropriate to compare existing systems with systems that are still under development. In addition, our testimony said that the warheads in our ICBM force were about the same age as those in the Soviet forces. This is in fact the case. The U.S. Minuteman II was deployed at about the same time as the Soviet SS–9 and SS–11 ICBMs; the U.S. Minuteman III was deployed at about the same time as the Soviet S–13. The new Minuteman Mark–12A warhead, which is being substituted for 900 Minuteman III warheads, is newer than the warheads on the S–17, SS–18, and SS–19 ICBMs. In response to questions asked by Senator Warner during the fiscal year 1983 defense authorization hearings, an Air Force representative said, "As a point of interest the Minuteman had a design life of 3 years and a design goal of 10 years. The Minuteman is fully capable now and should continue to be an effective weapon system through the year 2000, if not indefinitely." It is also important to understand the difference between calendar age and technological age. Many U.S. systems that are older than their Soviet counterparts still have greater capability. U.S. submarines are perhaps the best example of this.

TRIDENT II SUPPORT

Senator **Warner.** On page 3 of your statement you indicate that the introduction of the Trident II (D–5) missile into the U.S. inventory will put at risk the 70 percent of the Soviet strategic inventory currently deployed on land-based missiles. Do you and the Union of Concerned Scientists support the deployment of this missile?

Should neither the MX nor the D–5 missile be deployed, in what way would the concentration of Soviet strategic power in their most capable weapons systems—their ICBM force constitute a "serious liability"?

Dr. **Kendall.** My colleagues in UCS and I do not support deployment of the Trident II (D–5). Even without deployment of the Trident D–5 and the MX missiles, the Soviets would find that concentrating the vast majority of their forces in land-based silos is a liability. This limits their flexibility, and makes the forces easier to target in times of crisis. Minuteman missiles with the Mark 12A warhead and cruise missiles would both be able to present a threat to them.

AGE OF SOVIET AND AMERICAN FORCES

Senator **Warner.** On page 3 of your statement you indicate that our strategic bomber force is somewhat newer than Soviet equipment. That statement can only be true if one ignores the inherent strategic nuclear delivery capability of the Backfire bomber force, now totaling some 250 aircraft.

Do you disagree that this system has intercontinental-range on a 2-day mission with refueling and on a one-way mission with recovery in a third country without refueling?

Dr. **Kendall.** The Backfire is a bomber which has the technical capacity to achieve intercontinental range with refueling, and a one-way mission without refueling. However, for reasons set out below, it is presently not appropriate to include it as part of the Soviet strategic bomber force, and hence was omitted in my comparisons.

With regard to refueled missions: the Soviet aerial tanker inventory is currently very small, far too small for refueling more than a relatively insignificant portion of the 250 Backfires in existence. Moreover, the tankers that exist are inappropriately designed to match the Backfire—they are too slow—so refueling would require awkward and undesirable alterations in the attack profile.

With regard to one way, non-refueled missions: there could be no third-country landing and recovery. A country—it would have to be a country in the Western Hemisphere: Cuba, Argentina, Brazil?—would run the risk of massive U.S. retaliation, an enormously destructive blow, by receiving aircraft continuing on from a nuclear attack on the United States. The Backfires would have to be written off, lost as important strategic assets. Such an event compromises the aircrafts' principal strategic advantage—its reusability. Add to this the fact that without refueling the aircraft loses flexibility: if its primary targets are heavily defended or already destroyed, it has a much reduced capacity to reach alternate targets.

Taking these matters into account, it is appropriate not to include Backfires as elements of the Soviet strategic air forces.

PROBLEMS INVOLVED IN ATTACKING MX

Senator **Warner.** Dr. Scoville, you suggest in your statement it would be much easier for the Soviets to attack 100 MX missiles than it would 1,000 Minuteman missiles. You are aware, are you not, that the Scowcroft Commission's recommendations do not call—at least for the near term—for the elimination of any but the 100 Minuteman missiles which are to be replaced with the 100 MX's? As a result, the number of aim points which the Soviets would have to target would continue to be 1,000, would it not?

Dr. **Scoville.** I am aware that the total number of ICBMs would initially be the same (1,000) under the Scowcroft report recommendations. However, it would be much easier for the Soviets to destroy 1,000 or any specified number of our hard target warheads (100 aim points with MX as compared to 330 without it). Since it is the Minuteman that provides the important survivable element to our deterrent why add the MX to reduce the survivability. Furthermore the MX, because it is a greater counter ICBM threat, will make it more attractive as a Soviet target. Finally, if we reduce the warhead levels in START and don't give up the MXs (the administration has testified it would not), then the U.S. ICBM force becomes more and more vulnerable.

INDUCING THE SOVIETS TO FOLLOW OUR LEAD

Senator **Warner.** Dr. Scoville, on page 7 of your statement you make a rather interesting assertion: In short, you indicate that by emphasizing the survivability of our overall strategic deterrent we could induce the Soviet Union to move toward a more survivable force structure of its own and give up its concentration on land-based ICBM's.

Do you believe that the Soviets have invested as heavily as they have in ICBM's as a result of some perception that we attached special importance to the possession of a massive ICBM force?

Do you reject the assessment of our senior military officials that Soviet ICBM's—unlike our own—are today survivable due to an inability on the part of our weapons, in a prompt fashion, to attack such targets successfully?

Dr. Scoville. I do not believe that we can induce the Soviets to reduce its land-based missile force by deploying threatening MX missiles, which we insist on keeping under any START agreement. They are more likely to expand their force to increase its threat to our ICBMs. Such MX deployment is only a prescription for a dangerous escalation of the arms race. I believe we have a better chance of inducing the Soviets to reduce their countersilo ICBMs if we reduce the threatening targets for such missiles.

I believe the Soviets invested heavily in land-based missiles because they are by tradition and geography a land-oriented nation and because it is much more difficult for them to maintain a survivable submarine force. I am not optimistic that we can ever induce them to give up their concentration on land-based forces.

I do not disagree with any assessment of our senior military officials that the Soviet ICBM force is survivable today. However, their deterrent as a whole is less survivable than ours because they keep fewer warheads at sea in assuredly survivable submarines than we do. Our Minuteman IIIs with advanced guidance systems can at least theoretically threaten a larger fraction of their total warheads than they can destroy of our total deterrent even if they knocked out every single land-based ICBM. It must also be remembered that our MX warheads will not destroy any significant number of Soviet missiles unless they are so "prompt" that they are launched in a first strike.

SALT LIMITS ON SS–16'S

Senator Warner. General Jones, would you refresh my memory as to the reasons a ban on the SS–16 missile was sought in the SALT II agreement?

Was it not because of concerns about our ability to verify its whereabouts and numbers?

What has changed in our ability to monitor such systems that makes the introduction of small missiles appear to be a more attractive and stabilizing prospect today?

General Jones. Verification was a key consideration in the banning of the SS–16. Verification of the small missile will be difficult. The stabilizing prospect is based on the missile having only one warhead.

Senator Warner. General Jones, hypothetically, if the Soviets could take out our strategic C^3 system, coupled with attacks against our offensive strategic weapons, could they not realize a first-strike capability?

General Jones. Not a totally disarming first strike. Some of our systems, especially submarines, would survive. C^3 could be restored. Thus some threat would remain ; however, knocking out our C^3 would be very attractive if the Soviets could do so. Strategic C^3 remains the highest priority for the United States.

Senator Warner. Would the United States—with or without MX—have a comparable capability?

General Jones. The MX would make only a little difference in that case, assuming C^3 were knocked out before any U.S. missile were launched.

Questions Submitted by Senator Carl Levin

WINDOW OF VULNERABILITY

Senator Levin. General Burke, for many years you testified to our Committee that America faced a "window of vulnerability" which only could be closed by deployment of MX in a survivable basing mode. The Commission has repudiated your testimony by both declaring that the "window of vulnerability" really does not exist, and that we should deploy MX in nonsurvivable Minuteman silos. In light of this repudiation, (why) do you support the Strategic Commission's recommendations, which this Administration endorses?

General Burke. To begin with I don't think the question accurately or fairly summarizes the many hours of congressional testimony I have given on this subject. But certainly I have argued vigorously over the years for the importance of a survivably-based MX. I don't view the Commission's findings as a repudiation of that basic view but rather a recognition of the political realities that make it impossible for us to move immediately to a survivable basing system. I support the Commission's recommendations for the reasons given in my testimony.

MX BASING MODE ALTERNATIVES

Senator **Levin**. In special 1981 hearings[1] on MX missile basing mode alternatives before the Senate Appropriations Committee, you presented the results of a DOD analysis. You said it shows that if the Soviets initiated a first strike attack, the most attractive targets they have are the Minuteman III's, because there they have the potential of destroying three warheads with one.

So, MX, with 10 warheads, would be an even more attractive first-strike target by your reasoning. Is that correct?

General **Burke**. Yes. That disadvantage must then be weighed against the advantage (cited earlier) of deploying MX even in a non-survivable mode. When I make that assessment I conclude that, on balance, deployment of a limited number of MX in Minuteman silos is a highly desirable step.

Senator **Levin**. General Burke, in March 1982 R&D hearings[1] before the HASC, you said that "We do, of course, have a plan for a modest number (of MX) to be deployed in *an interim and nonsurvivable manner*; that is, in existing Minuteman silos" (emphasis added). Having characterized this basing mode as nonsurvivable, you went on to emphasize that MX communicates a threat to Soviet ICBMs: "I think the most important thing that it does is that it says to the Russians, even though it is a limited step, that no longer can they be free to regard their own silos as sanctuaries, which they heretofore almost as a matter of national policy." This combination of vulnerability and first-strike potential led you to caution that: "Given where we stand, I think it is a very good idea to put a limited number of MX's in silos, and 40 is the number I am comfortable with, and 50 would not bother me. But I would think one would not go into the hundreds with that. I think it would not be desirable for both sides to have a vulnerable preemptive first-strike capability. I think that would really create the two-scorpions-in-the-bottle analogy."

Many observers fear that, given the unlikelihood that the Soviets will give up their large, accurate ICBMs through arms control for many years, if ever, that MX deployment will not stop at 100 but be expanded significantly beyond that. The Scowcroft Commission strongly suggests this possibility in its report.

Doesn't this create precisely the unstable situation you warned against in your testimony?

General **Burke**. First, I don't believe it impossible that the Soviets would give up some of their large, accurate ICBMs in response to corresponding concessions on our part. To so believe is really to hold out that there is no future for strategic arms control and I don't accept that view. To the basic question of the "scorpions-in-the-bottle" analysis, the key is the number of MX deployed. Given the current Soviet inventory of many thousands of nuclear warheads, there is no way they could view a limited deployment of 100 MX as posing a plausible first-strike capability. I continue to believe that we should limit the number of MX deployed.

Senator **Levin**. Considering all the other strategic programs we have under way: ALCM's—2 generations, Trident II, Stealth Bomber, B-1, SLCM's, and considering MX would add only a few more surviving Prompt HTK weapons 50–100 (90–95 percent destroyed in Soviet First Strike), how much more national will and arms control leverage does MX really add? If the Soviets aren't convinced of our national will by spending $140–150 Billion over the next 5 years on all these other strategic programs, why should another $16 Billion for the MX convince them? You downplay the military reasons for the MX, so why should it add any leverage for arms control on top of the leverage of all these other programs?

It would seem that we wouldn't be demonstrating national will to the Soviets but national waste of scarce defense dollars which you say could be better spent militarily?

General **Jones**. I believe we have often overemphasized the question of the survivability of MX. It is an important consideration but there are other factors. I believe MX makes an important contribution to arms control and helps demonstrate national will.

Senator **Levin**. You have said we get "leverage" over the USSR because you see the MX as having 1,000 hard target RV's, instead of just the 50–100 which might survive a Soviet first strike if we decided to ride out their attack. Doesn't your view imply that we must adopt a "launch on warning" posture to obtain this leverage from the 1,000 MX warheads? Isn't this the destabilizing "use or lose" posture for us?

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[1] Special hearings before a Subcommittee of Senate Appro. Comm. MX Missile Basing Mode Alternatives, 1981.

General JONES. I do not believe that having a launch under attack capability is destabilizing. In fact, it is a part of our deterrent capability and, therefore, is stabilizing. The Soviets would have to take this into account in any decision to attack, which adds to deterrence.

Senator LEVIN. The Administration also justifies MX by saying it is needed for arms control leverage over the Soviets. You yourself support MX for this reason. Considering the other strategic weapons programs we have under development and deployment, which do you think the Soviets view as a greater military threat, the MX with its prompt hard target kill warheads or our cruise missile program?

General JONES. I believe the Soviets are more concerned about cruise missiles than the MX but this does not diminish the importance of the MX.

Senator LEVIN. How can a nonsurvivable system provide leverage over the Soviets in arms control negotiations? Since much of it can be destroyed in a first strike, why should the Soviets fear it—what threat does it pose to their own forces which would make them view their own forces with less regard and thus make them willing to negotiate some of them away?

General JONES. In my judgment, both sides fully understand that a disarming first strike is impossible. Also they cannot be assured they could destroy a majority of MX's even if they were foolish enough to attack.

Senator LEVIN. If the Soviets fear ALCM's more than MX, doesn't that mean they are more of an incentive for them to negotiate—that they represent more leverage for arms control? Doesn't that mean that we would increase the arms control leverage over the Soviets by deploying more ALCM's instead of MX?

General JONES. The MX complements the cruise missile and, therefore, adding cruise missiles in place of MX would not have the same impact.

Senator LEVIN. Is deployment of a survivable strategic weapons system consider stabilizing, esp. in a crisis? Is the converse of that true—that deployment of a nonsurvivable strategic weapons system is destabilizing because whichever side has it will be under a great amount of pressure to shoot first in a crisis for fear of losing his forces to an adversary's attack?

General JONES. The most destabilizing element is the large number of very large Soviet ICBM's. The diversified nature of our forces is a stabilizing factor.

Senator LEVIN. Why don't ALCM, B-1, ATB, Trident II all provide sufficient leverage over the Soviets for arms control—they all are probably more survivable than MX and thus probably threaten the Soviets more than a nonsurvivable MX?

General JONES. All of our strategic programs, including the MX, strengthen not only our strategic forces but also our ability to negotiate arms reductions.

Senator LEVIN. In the chaos and confusion of a strategic nuclear war, do you think there really is any meaningful military and political benefit from our having the capability to destroy Soviet hard targets in retaliation within 30 minutes by ICBM's, as opposed to within 2–4 hours or less by sub-launched missile warheads or 8–10 hours by bomber weapons?

General JONES. I believe that a quick hard target capability for the United States adds to deterrence.

Senator LEVIN. General Jones, you were Chief of Staff of the AF and Chairman of the JCS for 8 years, from between 1974 through 1982—most of the alleged decade of neglect and one-sided, unilateral restraint allegedly exercised by the United States in terms of modernizing its strategic forces. Do you accept this judgment that you presided over a period of unilateral restraint, or is it not true that we significantly modernized our Triad during this period?

General JONES. We modernized part of our strategic force but overall the United States exercised great restraint while the Soviets made the biggest buildup ever in strategic forces.

Senator LEVIN. "Rapid reload" of the Soviet silos is vastly overstated. Yes, they practice it, but they can't do it in just 30 minutes. They probably cannot do it in the 2–4 hours that it would take for the hard target kill SLBM's to arrive, or in the 8–10 hours it would take for the hard target kill bomber weapons to arrive—especially in an environment of exploding American warheads. Doesn't this neutralize the military importance of the Soviet ICBM reload capabilities.

General JONES. I believe the Soviet reload capability is important but I do not consider it to be a major factor in the MX argument.

Senator **Warner**. Gentlemen, I cannot tell you how grateful the members of the committee are for your attendance today and your continuing contribution in our dialog on strategic defensive systems in this country. It is a great tribute to you because you are here voluntarily, and giving up your time to help your Nation, and I thank you very much.

General **Jones**. Thank you, Mr. Chairman. On behalf of all of us, thank you for having us.

[Whereupon, at 12:30 p.m., the subcommittee was adjourned, to reconvene at the call of the Chair.]

MX MISSILE BASING SYSTEM AND RELATED ISSUES

TUESDAY, APRIL 26, 1983

U.S. SENATE,
SUBCOMMITTEE ON STRATEGIC AND
THEATER NUCLEAR FORCES,
COMMITTEE ON ARMED SERVICES,
Washington, D.C.

The subcommittee met in open session, pursuant to notice, at 8:05 a.m. in room SR-253, Russell Senate Office Building, Senator John W. Warner (chairman), presiding.

Present: Senators Warner, Goldwater, Cohen, Quayle, Nunn, Exon, Levin, and Kennedy.

Staff present: Frank J. Gaffney, professional staff member; Paul C. Besozzi, minority counsel; George K. Johnson, Jr. and Patrick L. Renehan, professional staff members; and Jacquie S. O'Grady, staff assistant.

Also present: Dennis P. Sharon, assistant to Senator Goldwater; John Campbell, assistant to Senator Warner; Hank Steenstra, assistant to Senator Quayle; Carol Weatherly, assistant to Senator Warner; Joseph Kruzel, assistant to Senator Kennedy; Arnold Punaro, assistant to Senator Nunn; Frank Sullivan, assistant to Senator Stennis, Greg Pallas, assistant to Senator Exon; Peter D. Lennon, assistant to Senator Levin; Matthew Murray, assistant to Senator Kennedy; Mary Shields, assistant to Senator Stennis; Bob Savitt, assistant to Senator Cohen; and Gene Myer, assistant to Senator Quayle.

OPENING STATEMENT BY SENATOR BARRY GOLDWATER, PRESIDING

Senator GOLDWATER [presiding]. Senator Warner is unfortunately detained and will be a little bit late and knowing that you gentlemen have other things to do, we will open the meeting and I will ask unanimous consent that the opening statement of Senator Warner be placed in the record.

[The prepared statement of Senator John W. Warner follows:]

OPENING STATEMENT BY SENATOR JOHN W. WARNER

The subcommittee this morning resumes its consideration of the strategic force modernization program recommended by the President's Commission on Strategic Forces and endorsed by President Reagan 1 week ago.

Our first witness will be Gen. Bennie Davis, Commander-in-Chief, Strategic Air Command. General Davis is well known to all of the members of this subcommittee and as the senior military officer with direct operational responsibility for America's land-based forces his testimony concerning the MX missile, the small ICBM concept and related issues should be of great value to this committee's deliberations.

Senator GOLDWATER. General, you may proceed.

STATEMENT OF GEN. BENNIE DAVIS, USAF, COMMANDER-IN-CHIEF, STRATEGIC AIR COMMAND, ACCOMPANIED BY GENERAL FORNELL AND BRIGADIER GENERAL SHAUD

General DAVIS. Thank you, Senator Goldwater.

I am once again pleased to have the opportunity to share with the committee this morning the pressing requirements of strategic deterrence, and I appreciate the continued interest and concern of the Congress. I am confident that we will make the decisions necessary to maintain peace and national security.

Now, since you have asked me to come here specifically to share my views on the intercontinental ballistic missile programs recommended by the President's commission, I will focus these opening remarks on the commission's recommendations for the deployment of Peacekeeper, MX, and the development of a small single warhead ICBM. I have briefly commented on the entire commission report in my expanded remarks for the record which I have submitted.

The recommendation for development of a new single warhead ICBM is a promising and sensible approach to long-term modernization of our land-based deterrence force. As was pointed out in the report, the technologies necessary to develop such a missile are well within our grasp, and our projected initial operational capability in the early 1980's is an achievable goal.

Senator GOLDWATER. Are you talking now about the small one?

General DAVIS. Yes; the small one.

As part of that two-phased program, planning for long-term stability is vitally important, but it is pointless to plan for the long term if we are overwhelmed before we get there. From my perspective as an operational commander, there is only one sensible and safe course to take if we are to meet the very real challenges confronting us now and that is the deployment of the Peacekeeper missile.

My position on the need for this ICBM has been clear and consistent throughout the debate over various deployment schemes. In November of 1981 I made the following statement to this subcommittee: "The MX missile, however it is based, will make a very substantial contribution to our national security, and it is vital for our deterrence to deploy that system" and I recommended then as I do now that we deploy it in existing Minuteman silos to get it deployed as soon as possible for our strategic deterrence.

My continued emphasis on the need for prompt retaliatory hard target capability should not be misunderstood. As you well know, our fundamental objective is to deter, not to fight a nuclear war. Now, the military capability of the Peacekeeper represents the safest and most effective means to achieve our desired goal of deterrence. By the same token, deployment of Peacekeeper in existing Minuteman silos does not, based upon the number of weapons in proposed, represent a destabilizing preemptive potential.

This potential will promote rather than threaten stability. As pointed out in the report, that is the President's Commission report, we are simply conducting a sensible and orderly modernization of our ICBM force to replace those weapons scheduled for retirement and to overçome our growing problem with weapon system obsolescence.

I appreciate very, very much the opportunity to come before this subcommittee again.

Another point that must be addressed in our discussion of the need for the Peacekeeper missile, and that is the influence that deployment will have on our arms control negotiations. As pointed out in the Commission's report, failure to deploy the Peacekeeper would transmit a deplorable message to our friends and foes alike and undermine our efforts to negotiate meaningful arms reductions. Unless the Soviets are convinced that we will do whatever is necessary to protect our vital national interest, it is unlikely that they will be willing to sacrifice their hard-earned advantages in the current strategic balance.

To me the bottom line is clear. Peacekeeper deployment in concert with our other modernization programs enhances deterrence and underwrites the ongoing efforts to achieve true stability at significantly reduced force levels.

Let me leave no doubt that this proposal for ICBM modernization is, as the commission recommended, a sequential program. Peacekeeper is needed now to promote near-term stability and carry us safely through the period of danger. The new small missile coupled with successful arms negotiations will provide stability in the long term.

As the strategic balance has shifted in favor of the Soviet Union, they have shown an increased willingness to exert their influence on a global scale. We must take the necessary actions now to insure that the United States retains freedom of action on the world stage capable of protecting our own interests and those of our allies. I am convinced that the American people, if fully informed of the magnitude of the threat to the Nation's security, will support our strategic modernization.

Once again, Senator Warner, Senator Goldwater, Senator Cohen, I am very pleased to be with you this morning to discuss the President's Commission's report.

Thank you.

[The prepared statement of General Davis follows.]

PREPARED STATEMENT BY GEN. B. L. DAVIS, COMMANDER IN CHIEF, STRATEGIC AIR COMMAND, AND DIRECTOR, STRATEGIC TARGET PLANNING/STRATEGIC CONNECTIVITY

As always, I am pleased to have this opportunity to share my views with you on the pressing requirements of strategic deterrence. I appreciate the continued interest and concern of the Congress and, although some difficult issues must still be resolved, I am confident that we will make the decisions necessary to maintain peace and national security. As a military commander, my paramount concern is that we move swiftly to transform those decisions into capable and ready forces, and I am sure that you share this sense of urgency.

I want to open my remarks by commenting briefly on the report of the President's Commission on Strategic Forces, and will then focus on the issue of primary concern to us at the moment—modernization of our land-based ICBM force.

I agree with the Commission that improving our strategic command, control, and communications must remain our first priority. The ability to maintain reliable communications under attack is essential to the continued credibility of our deterrent posture.

As I have stated previously before this committee, I believe that the triad concept—because of the overwhelming complexities and uncertainties it presents to a potential attacker—remains the foundation of a lasting and effective deterrent.

My position on the B-1 and air-launched cruise missile programs is a matter of record. Both programs are on track and—thanks to the support of the Congress—will do much to maintain the flexibility of our bomber leg and help restore stability to the mid-term strategic balance.

I agree that the construction of the Trident submarine and continued development of the D-5 missile are essential to maintaining the capability of the sea-based leg of the triad.

I applaud the administration's commitment to actively pursue research for an effective ballistic missile defense. Over the long term, a strong defensive capability can bolster deterrence not only by reinforcing our retaliatory capability, but by reducing the preemptive capability of Soviet offensive efforts, increasing our range of retaliatory options, and increasing both peacetime and crisis stability.

Since you have asked me to come here specifically to share my views on the ICBM programs recommended by the Commission, I will focus the remainder of my remarks on the Commission's recommendations for deployment of Peacekeeper and development of a small, single-warhead ICBM.

The Commission's recommendation for development of a new, single-warhead ICBM—in conjunction with Peacekeeper deployment—is a promising and sensible approach to long-term modernization of our land-based deterrent force. As was pointed out in the report, the technologies necessary to develop such a missile are well within our grasp, and a projected initial operational capability in the early 1990's is an achievable goal. As we look into the future, deployment of this type of weapon system may represent our brightest hope for true long-term stability at significantly reduced force levels.

I will expand on the issue of a new small missile and long-term stability in a moment. But before doing so, I want to make one point absolutely clear: until it is deployed in a weapon system, a new technology—no matter how promising—will not deter aggression. Planning for long-term stability is vitally important, but it is pointless to plan for the long-term if we are overwhelmed before we get there. From my perspective as an operational commander, there is only one sensible and safe course to take if we are to meet the very challenges confronting us now—deployment of the Peacekeeper missile.

I need not tell the members of this committee that the debate over Peacekeeper deployment has been a long and often frustrating experience. While there has been a general consensus on the pressing need for a new ICBM, there has been much less agreement on the issues surrounding the best deployment mode for such a system. The basis for much of this debate appears to be the argument that we must develop a proven solution to the vulnerability of our land-based ICBM's before we can deploy the Peacekeeper missile. Weapon system survivability is certainly a significant consideration, but it is far from the only, or even the most important attribute needed to maintain an effective deterrent. Our current period of danger, sometimes called the "window of vulnerability," is not solely a function of our strategic systems' vulnerability to attack, but a national vulnerability to an attack for which we do not have an effective and credible response.

The most important factor lacking in our capacity for effective response is a prompt retaliatory hard target capability. A fundamental precept—and paradox—of nuclear deterrence is that in order to avoid a nuclear war, we must possess weapon systems with the requisite yield and accuracy to promptly threaten what the Soviets hold most dear—their hardened strategic assets and command facilities. The current disparity in military capabilities will not be corrected, nor will stability be restored to the strategic balance, until we possess the prompt retaliatory capabilities inherent in a system like the Peacekeeper missile.

My position on the need for this ICBM has been clear, and consistent throughout the debate over various deployment schemes. In November of 1981, I made the following statement to this subcommittee: "The MX missile—however it is based—will make a very substantial contribution to our national security." In subsequent testimony before this subcommittee in February of 1982 I said, and I quote again: "We must accept in advance that we are unlikely to identify a perfectly survivable basing mode for MX—just as bombers and submarines are not perfectly survivable."

Much of the controversy surrounding modernization of our ICBM's derives from misperceptions regarding the true role of the Peacekeeper missile in our triad of deterrent forces. The Peacekeeper missile was not designed to provide us with a revolutionary new missile deployed in an invulnerable basing mode. The Peacekkeeper missile was designed as a follow-on ICBM to replace a portion of our aging minuteman force deployed in the 1960's and early 1970's. It should come as no surprise that a follow-on system is needed now to replace missiles that have a design life of approximately 10 to 15 years; eventually, everything wears out. In fact, the Peacekeeper missile was not originally intended to utilize mobility or to be deceptively based. It was originally designed to fit into existing minuteman silos and was envisioned as the next logical step in the necessary evolution of U.S. ICBM's which serve as the most cost-effective and responsive counter to the expanding Soviet strategic nuclear arsenal.

While we have delayed modernization of our ICBM force, the Soviets are now completing deployment of their Peacekeeper equivalent, the SS-19, and also deployment of the SS-18, for which we have no equivalent in size or throw-weight. We can learn a lesson from the Soviets in this regard. Rather than wait for perfect solutions to admittedly difficult problems, they have employed state of the art improvements in a relentless program to upgrade the warfighting capability of their ICBM's. Although we should strive to deploy new systems with the best technology available, we should not be paralyzed by anticipation of technologies or basing schemes that are "just around the corner." We may never arrive at that corner if we fail to take the immediate steps necessary to protect our vital interests. It would be a mistake not to proceed with Peacekeeper deployment. This would, in effect, perpetuate the strategic imbalance and put us in the strange position of granting the Soviets a sanctuary for their silo-based ICBM force while denying ourselves an equivalent capability—a strange course to take indeed.

Promising concepts like the D-5 and new small missile must be pursued, but we dare not mortgage the present based on hopes for the future. We are paying now for the unilateral restraint we exercised over the past decade. Further delays will only further destabilize the strategic imbalance and threaten the credibility of our deterrent strategy.

The plain and simple fact of life is that the Soviets can threaten our land-based deterrent forces and we do not possess a comparable capability. A silo-based Peacekeeper will resolve this fundamental and destabilizing imbalance by placing at risk the Soviets' newest and most lethal strategic assets. In effect, we need the Peacekeeper to blunt the Soviets' warfighting advantage so that they could never believe they would prevail in a nuclear conflict—this is the essence of deterrence.

Moving ahead with deployment of Peacekeeper in silos will strike a true balance between the military and survivability characteristics on both sides. The SS-18's and SS-19's are adequate to the task of threatening our silo-based forces. Although the Peacekeeper will be deployed in silos relatively less hardened than their Soviet counterparts, the accuracy of the Peacekeeper will compensate for our current ICBM deficiencies. This force balance seems an eminently sensible approach to restoring strategic equivalence and overcoming the disparity in force-on-force effectiveness.

Our search for perfect survivability is not only futile, it ignores a fundamental point expressed in the commission's report: Our triad elements work together to promote overall survivability. If we were to demand unquestioned survivability of all triad elements in isolation, we would be forced to keep all our planes in the air and all our submarines at sea around the clock. Fortunately, this is not the case. The high alert rates of our ICBM force allow us the flexibility to operate our other strategic systems at lower and more economical day-to-day alert rates.

Our example of how our strategic systems work in concert to promote one another's survivability is the timing problem the Soviets would face in attempting a simultaneous attack against our ICBM and bomber forces. A simultaneous Soviet launch of SLBM's and ICBM's would provide approximately 15 minutes for a retaliatory launch of U.S. ICBM's between the time of confirmed SLBM detonation on U.S. bomber bases and arrival of Soviet ICBM's. An attempt to achieve simultaneous impact would require early launch of Soviet ICBM's, thereby providing tactical warning for U.S. bomber escape. This timing problem posed by our triad serves a very fundamental purpose—it creates uncertainty in a Soviet planner's mind and bolsters deterrence by raising serious doubts about his ability to use nuclear weapons to achieve national objectives. Peacekeeper deployed in silos will greatly increase this uncertainty through its ability to hold at risk the full range of Soviet strategic assets. Under any conditions of war initiation, the Soviets simply cannot discount the possibility of a timely Peacekeeper retaliation.

The commission's report describes the value of this attack uncertainty beautifully, and I believe the words warrant repetition here: "In such a case the

Soviets should have no confidence that we would refrain from launching our ICBM's during that interval after we had been hit. It is important to appreciate that this would not be a "launch-on-warning," or even a "launch under attack," but rather a launch after attack—after massive nuclear detonations had already occurred on U.S. soil." Let me stress again that this concept has deterrent value only if our ICBM's have the accuracy and yield—inherent in the Peacekeeper—to be effective against the most valued Soviet assets.

My previous emphasis on the need for a prompt hard target retaliatory capability should not be misunderstood. As you well know, our fundamental objective is to deter—not to fight—a nuclear war. The military capability of the Peacekeeper represents the safest and most effective means to achieve our desired goal of deterrence. In the unlikely event that deterrence should fail, Peacekeeper would certainly be effective in drawing down Soviet residual weapons and limiting further damage to the United States; however, the key point is that it diminishes the likelihood of such a war occurring in the first place. This, after all, is what we are all about.

By the same token, deployment of Peacekeeper in existing minuteman silos does not, based on the number of weapons proposed, represent a destabilizing preemptive potential. This deployment will promote rather than threaten stability. As pointed out in the report, we are simply conducting a sensible and orderly modernization of our ICBM force to replace those weapons scheduled for retirement and to overcome our growing problem with weapon system obsolescence. In point of fact, the proposed Peacekeeper deployment does not approach recent Soviet deployment of over 600 modern ICBM's in the Peacekeeper class.

Deployment of Peacekeeper in existing silos is consistent with our ongoing evolution toward more selective and discrimnate weapons. Our current national strategy calls for flexible forces designed and developed in such a way that, should deterrence fail, our responses would be appropriate to the circumstances of the aggression against us. The requirement for flexible and selective forces established by this eminently sensible shift in national strategy is one thing; actual possession of the forces required to meet that strategy is something quite different. As I have already said, our current forces cannot pose a prompt retaliatory threat to the Soviets newest, most effective strategic assets.

To promote deterrence, we must have the capability to effectively respond in an appropriate manner to the level of a Soviet attack. We must not present the national command authorities with a "Hobson's Choice" after a Soviet first strike—the choice between an ineffective retaliation against military assets or a full economic/industrial response. Such an economic/industrial response would likely invite Soviet retaliation at the same level.

There is one other point that must be addressed in our discussion of the need for the Peacekeeper missile—the influence that deployment will have on arms control negotiations. As pointed out in the commission's report, failure to deploy the Peacekeeper would transmit a deplorable message to our friends and foes alike and undermine our efforts to negotiate meaningful arms reductions. Unless the Soviets are convinced that we will do whatever is necessary to protect our vital national interests, it is unlikely they will be willing to sacrifice their hard-earned advantages in the current strategic balance.

To me the bottom line is clear. Peacekeeper deployment—in concert with our other modernization programs—enhances deterrence and underwrites the ongoing efforts to achieve true stability at significantly reduced force levels.

I would like to return now to the commission's description of the potential for long-term stability inherent in a small, single warhead missile.

Development of this new ICBM makes sense for several reasons:

First, a combined force of modern single and multiple-weapon ICBM's will provide a great degree of tactical flexibility. This flexibility would enable us to carry out an effective counterforce response against any projected Soviet military target base under all conditions of war initiation.

Second, the size and weight of the missile would be more conducive to a variety of basing modes—including mobility or deception—than a missile in the category of Peacekeeper. As was pointed out in the report, multiple basing options should be pursued.

Third, deployment of a single warhead delivery system is compatible with our ongoing efforts to reduce the total number of deployed strategic weapons.

Fourth, and most important, deployment of a small, single warhead missile may offer our best hope for true long-term stability in the strategic balance. Again, I will quote from the report: ". . . from the point of view of

> enhancing such stability, there is considerable merit in moving toward an ICBM force structure in which potential targets are of comparatively low value—missiles containing only one warhead." A U.S. movement in this direction may provide an incentive for a matching Soviet move away from mounting many warheads on each missile deployed. Surely, this would be a move toward stability.

In any event, the commission's two-track proposal for ICBM modernization will provide us the flexibility and growth potential to take whatever actions are necessary to protect our vital national interests. Our most fervent hope is that we achieve true stability at significantly reduced force levels. But we must be prepared to defend ourselves if our hopes are not realized.

Let me leave no doubt that this proposal for ICBM modernization is a sequential program. Peacekeeper is needed now to promote near-term stability and carry us safely through a period of danger. A new small missile, coupled with successful arms negotiations, will provide stability in the long-term.

As the strategic balance has shifted in favor of the Soviet Union, they have shown an increased willingness to exert their influence on a global scale. We must take the necessary actions now to insure that the United States retains freedom of action on the world stage, capable of protecting our own interests and those of our allies.

No rational human being—military, civilian, United States or Soviet—wants a nuclear war. Only in the most severe national crisis are the Soviets likely to even consider this truly catastrophic means of projecting their national will. Our goal must be to convince them that nuclear war is the most available option under all conditions and insure that they never have the ability to coerce us through the threat of nuclear war to achieve their expansionist objectives.

I do not want to leave you with the impression that we are helpless or impotent in the face of Soviet threat; we are not. But we must see the world as it is—not as we would like it to be. In the world as it is, strength, imagination, and will are required to face the future with confidence. I am convinced that the American people, if fully informed of the magnitude of the threat to the Nation's security, will support our strategic modernization programs.

I thank you again for this opportunity to share my views and will be happy to answer any questions you may have.

Senator WARNER [presiding]. Thank you.

Senator GOLDWATER. I apologize for starting early, Mr. Chairman.

Senator WARNER. No apology is needed. Senator Goldwater, perhaps you could question the General first and Senator Cohen next, since I will be here throughout the day.

MX OR SMALLER MISSILE

Senator GOLDWATER. General Davis, if you were given your choice and we were only going to buy one missile, would you want an improved Minuteman, which I call the MX, or the new smaller one that can be mobile?

General DAVIS. If given my choice, Senator, I would have to go with MX because of the critical essentiality of that system in the near term to provide for our strategic deterrence. We have successively over the last 10-plus years procrastinated on a decision to modernize our ICBM's.

I believe, not only from a military point of view but from a national security point of view and a foreign policy point of view, all the world looks at us with not enough courage to make that decision and rather kick the can down the street for another 10 years, so I believe we must go with MX.

Senator GOLDWATER. Would the launch of an MX do a lot of damage to the present silo, or would you be able to launch more than one missile from the present silos?

General Davis. Since it is a cold launch system, we would do minimal damage to the silo.

Senator Goldwater. Then you could launch more than one?

General Davis. Yes; now it would take some time to reload. It is a matter of days, not hours.

Senator Goldwater. That is all I have, Mr. Chairman.

Senator Warner. Senator Cohen.

Senator Cohen. Thank you.

General Davis, Senator Goldwater asked you whether you would favor the Minuteman, the MX versus the Midgetman, and you came down on the side of the MX. Let me just make it more hypothetical.

What if you had a choice between the two, assuming they came on line at the same time?

General Davis. I have difficulty with such hypothetical questions. I think the more appropriate one is what is realistic, and MX is the only realistic near term.

Senator Cohen. Well, I am trying to get at the issue of mobility. I assume that you were in the Air Force at the time the Air Force recommended the vertical MPS system.

General Davis. Vertical or horizontal?

Senator Cohen. Vertical

General Davis. Yes; I was.

Senator Cohen. In the summer of 1978 the Air Force said the vertical MPS was the most cost-effective, desirable basing mode for the MX. Did you agree with that decision?

General Davis. In 1978 I was not in the Strategic Air Command. I was not consulted for an agreement or disagreement.

Senator Cohen. Well, that was the Air Force's position. Do you agree with that now or disagree with it?

General Davis. Well, I believe, Senator, over the years as we have looked, and with the goal at that time of absolute survivability, I believe this Commission has come to the conclusion that there is no absolutely survivable system, but rather in my job, and my job is to look at strategic deterrence and, as the operational field commander, deploy those systems that will give us deterrence in order to maintain the peace.

Senator Cohen. Would you rather have a mobile system or a static system?

General Davis. Given today's circumstance, I would rather have MX and in Minuteman silos. That is the obvious next step.

Senator Cohen. In other words, you disagree with all of the past individuals who have testified, including Secretary of Defense Brown, including Deputy Secretary Bill Perry, including James Schlesinger and others right down the line who have indicated that they wanted mobility in the MX to give it a greater survivability than it would have in fixed silos?

General Davis. Well, I believe if one goes back and speculates on history, and I believe those same persons have unanimously supported the Commission's recommendation to the President. The President has now recommended that Commission report, and they all support it and I support it.

Senator Cohen. Well, of course, there has been quite a change in attitude. We have been talking about the vulnerability of the Minuteman force for about 10 years now and that has been the driving force behind going to the MX, to find some kind of a mobile basing for our new missile because of the window of vulnerability.

Now, that has been changed somewhat as a result of this Commission's study. They have indicated and everybody who has testified before the committee has said, that we have perhaps overstated the case. It was never quite that vulnerable, and, therefore, we are now deciding that we can put the MX with reasonable confidence inside the Minuteman silo. That is quite a shift in testimony over the past 10 years.

General Davis. Well, Senator, as in your and my discussion last month where we talked about the window of vulnerability, there was unfortunately meaning attached to the vulnerability of land-based ICBM silos with the window of vulnerability, and as I explained at that time, the window of vulnerability has to do with relative capabilities of both side's strategic systems of deterrence, if you will. And that vulnerability has to do with our ability to present a viable threat to his systems in order for us to deter.

Now, we have been through several schemes, several deployment schemes, as we were searching for the best system to provide as much survivability as we could, and as all analyses will, we focused on the land-based ICBM or MX in isolation of all the other systems.

The very reason for the triad, and as I say analytical exercises do that, but when one deploys a new capability like MX in Minuteman silos, for the Soviets to attack the entire triad, the survivability of land-based ICBM's is certaintly important but it is not the overriding consideration.

The overriding consideration is the capability to retaliate so that he never wants to attack you.

Senator Cohen. You indicated that the MX does not represent a destabilizing first strike capability. Would the 100 deployed MX missiles plus the D–5 missile and the new Trident II represent a potential first strike?

General Davis. No, sir. It would not.

In order to have a viable first strike capability, you had better have the capability to completely disarm ~~him,~~ and both systems deployed will not give you that capability.

Senator Cohen. The commission disagreed because the commission stated that the MX plus the D–5 might very well give you a first strike capability. You disagree with the Commission in that regard?

General Davis. Well, I believe the qualifying words were "may well", which leaves you a lot of room.

Senator Cohen. But you said rather categorically it did not.

General Davis. And I do not believe it does.

FIRST STRIKE CAPABILITY

Senator Cohen. Now, if we do not have a first strike capability with the MX and with Trident when fully deployed, what makes you think that the Soviets have a first strike capability that now threatens our survivability?

General Davis. I merely look at what they have.

Senator **Cohen**. Well, how do they threaten our submarines right now? I mean, it has got to cut both ways, does it not? If we do not have a first strike capability, with the MX and the Trident and the B-1, then what gives them a first strike capability?

General **Davis**. The tremendous number of ICBM's, MIRVed ICBM's, fourth generation systems with enough warheads.

Senator **Cohen**. To do what?

General **Davis**. To take out, without using all of those warheads, all of our capability on land.

Senator **Cohen**. In other words, to the extent they could destroy our capability on land, that constitutes first strike?

General **Davis**. Well, of course.

Senator **Cohen**. Well, let me get back then to my question.

Senator **Warner**. Would the Senator yield?

Could the witness give his definition of what a first strike is?

General **Davis**. And I started out with my definition of a first strike, which is the ability to wipe out or the ability to neutralize very sufficiently or to neutralize totally the other side's capability to strike you in retaliation.

Senator **Cohen**. Now assuming the Soviets have the capability of wiping out our land-based ICBM's, does that, by your definition, give them a first strike capability?

General **Davis**. They would have to be able to take out both the bombers and the ICBM's and those submarines not on alert which are more than two-thirds not on alert.

Senator **Cohen**. Does the Soviet Union, in your judgment, have a first strike capability?

General **Davis**. Today it is getting perilously close, perilously close.

Senator **Warner**. I will pick up with a question or two and then Senator Cohen can continue.

Have you sufficiently framed your definition of first strike, or do you want to go back over it again because I think this is very important?

General **Davis**. I believe, Senator——

Senator **Warner**. Try it one more time because as I listened very attentively it seemed to me there was a sentence or two that dropped off and I was not quite certain what you meant.

General **Davis**. It is the capability to virtually take out all of the other side's capability. Now, you cannot ever depend on 100 percent, but it is the capability to take out most of your immediate retaliatory capability.

Senator **Warner**. That would include elements of each of the three legs of the triad?

General **Davis**. It would.

Senator **Warner**. And as you analyze the Soviet capability, it could take out our land-based system, simultaneously taking out the bomber force and the submarines not deployed, whereas the Commission report drew a distinction in terms that they would have to make a choice between the bombers or the MX because of the time delay.

General **Davis**. Well, that is correct, but again depending upon the scenario, whether you are talking about an alert scenario or a generated scenario.

If you are in an alert scenario, the majority of the bomber force not on alert is not generated and will not escape under those very narrow time parameters.

I think the Commission made a very important distinction and that was, one has to consider the triad and the other side's capability to attack the triad and not zero in on the land-based ICBM in isolation. And that, of course, is deterrence, but a strict, from my point of view, from the operational commander's point of view, a first strike requires a capability to take out the majority of the other side. Otherwise you invite prompt retaliation and they cannot be sure.

Senator WARNER. It is your opinion that they have it and we do not have it?

General DAVIS. My opinion is, and we have gone through this at a succession of hearings, that they have a significantly better capability in terms of land-based ICBM's.

Senator WARNER. Well, that I am aware of.

LEAPFROGGING MX IN FAVOR OF SMALL MISSILE

Let us go back to Senator Cohen's first question because during the course of debate I anticipate there will be considerable discussion on whether or not this Nation should leapfrog, so to speak, the MX and go straight to the small missile.

Thus far we have not compiled in the record a great deal of testimony stating that we could get the small missile within a timeframe of say 6 to 7 years. It appears it is going to be longer.

Nevertheless, historically this country has embarked on weapons programs, large programs, which have received adequate resources and a high enough priority, perhaps even across several services, to get the program done in the most expeditious manner. Given the fact that between 1986 and 1994 there will be a confluence of weapons in the form of the B-1, Stealth, cruise missile, Trident II and MX, all of which have hard target kill capabilities—albeit there is a difference in delivery time between the systems, and looking at the overall restriction for the moment on the defense budget particularly in the out years where it is extremely hard to grapple with projected cost, we come back to Senator Cohen's question.

If, in fact, you could deliver the MX system and a Midgetman system with an IOC of not more than 2 or 3 years separating them, which would you prefer if you had to make a choice today?

General DAVIS. With the unknowns, compared to the knowns and compared to our nonmodernizations over the past several years, I have to come down for the MX, but as the Commission stated, their report was to be taken in totality. It was a total program deployment of the MX in Minuteman silos as a logical modernization step and, of course, R&D on the small solid single warhead missile as a move toward arms control. And it is a two-part report. The report is a whole, and I just do not believe we can pull it apart.

Senator WARNER. No one is trying to pull the report apart. We have a very difficult problem here. Every section of that report has to be substantiated by a record produced to a great extent here before the Armed Services Committee before the Senate of the United States is going to accept it.

General Davis. But because of the unknowns yet in the development and deployment——

Senator Warner. Those unknowns would be what then?

General Davis. Well, since we have never——

Senator Warner. The basing mode?

General Davis. Well, the basing mode, the vehicle since we have never designed it. There are certainly technologies available to help, but nobody has ever put such a program together. Now, I am aware that there are contractor proposals, but they are paper proposals.

Senator Warner. Now the arms control features of this program, the MX program, are really in my judgment the driving force at this time. Nevertheless, the Commission indicated that there were a number of advantages in terms of future arms control agreement derived from the small missile. You are familiar with that part of the report, I presume?

General Davis. Yes.

VERIFYING SMALL MOBILE MISSILE SYSTEM

Senator Warner. Would you address the question of the verification of a small mobile missile system and what complexities that presents?

General Davis. First of all, I believe it will be very difficult through use of national technical means. The verification will be very difficult, certainly not impossible, but very difficult so that as one works out verification, much as the nuclear freeze proposal has held a mutual verifiable freeze on both sides, one cannot escape going to some sort of onsite verification. I believe the verification would be very difficult by national technical means only.

Senator Warner. Now returning to the MX, there has been some very serious consideration given by members of this committee to an approach for the deployment of the MX similar to that being pursued with respect to the intermediate range nuclear forces in Europe.

Under this approach the United States would only proceed to deploy some number of MX missiles while searching continuously for an arms control agreement that would make the deployment of further MX's unnecessary. Would you comment on that approach?

General Davis. Well, of course, the program or the Commission's report was to be considered as a whole as we have discussed before, and I understand the responsibilities of the Congress and the Senate in these matters as regard to dollars, but I do believe a commitment on the part of the United States to embrace and deploy MX in Minuteman silos will certainly have a significant impact on the Soviets.

Now, the proposal to deploy 50, check the reaction, deploy another 50, check the reaction, and perhaps a third increment of 50, the legislative process by way of its annual review of the budget, I believe, provides the Congress that sort of a check.

LIMITATION ON WARHEADS AND THROW WEIGHT

Senator Warner. As you know, an essential component of the Commission report is its advocacy of a new approach in U.S. arms control initiatives. That is, the Commission recommended the substitution of limitations on warheads and throw weight for the limitations which we previously sought on launcher systems. What is your attitude toward that approach?

General DAVIS. I believe that is a very real world, best approach—to look at warheads and to look at throw weight. At the same time, the mere count of nuclear warheads, without looking at quality delivery systems and quality of warheads and age of warheads, is not a very useful exercise. That is, just to count reentry vehicles or warheads if some of those warheads are 25 years old.

Senator WARNER. Senator Exon?

Senator EXON. Thank you, Mr. Chairman.

General, I want to welcome you here today along with your associates. Thank you also for bringing the great Nebraska weather with you to Washington, D.C. We needed that very badly. [Laughter.]

I think you know that this committee is primarily concerned about the survivability of the MX if we place it in the Minuteman silos. That has been something that has been discussed for a long, long time, and I think it might be helpful if you could maybe elaborate a little more than you have to date on how you view this decision—you play a particularly key role in this, and we have all recognized that and recognized your abilities and the significant career that you have had. It would be helpful, I think, if you could allay some of the fears that many of us have with regard to the survivability of the new MX and Minuteman silos.

General DAVIS. Well, thank you, Senator.

It is always good to be back, and I am glad I can bring this good Nebraska weather here for you. I do appreciate the opportunity to discuss once again survivability.

TRIAD VIABILITY

Triad viability, as I have always maintained or maintained since August of 1981 when I was appointed to my present position, and that is deterrence, is key and how best to deter to continue to promote the peace. The best way to do that, in my view, while deterring is to keep a capability that the other side is very conscious of and to modernize that capability in order to promote subsequent deep arms reductions.

Now, in order to keep that force ready and to maintain the viability of the triad, looking at what the other side does is, of course, to keep all three legs viable so that none is attacked in isolation, and if they are attacked in isolation you have both that leg and the other two legs to respond to. You have been through, and I know the committee has been through, the strengths and weaknesses of each leg of the triad, but let me try once more.

Land-based ICBM's, the most prompt, most accurate, the best command and control system, but without superhard silos, the most vulnerable if, indeed, we ride out an entire enemy attack.

The submarine-launched ballistic missile is the most survivable today. It reacts nearly as rapidly as a land-based ICBM, but it is nearly invulnerable. It has some essential communications weaknesses, but it is the most survivable.

Land-based bombers are the most versatile system and are capable of being recalled. Of course, we keep a third of the bombers on alert and about a third of those submarines committed on alert while at the same time we keep nearly 100 percent of the land-based ICBM's on alert. So, dollar for dollar you get more out of land-based ICBM's by a factor of three than any other of the legs of that triad.

All of those legs are mutually supporting, because to attack the system, one cannot attack it in isolation because of the retaliatory capability of the other legs. And I am mindful of the fact that sending all ballistic missiles to sea certainly solves environmental problems. It also allows the Soviets to concentrate only two legs and perhaps come up with solutions.

I believe the solution of antisubmarine warfare is in the 20th century. I could not give you a date, but I am certain that one day technology will solve that problem. And to go to a diad, from my point of view, from looking at the triad as a daily way of life, is just not the way to go.

There are certain key problems, I believe, that our allies would have with this. That is, if we decide once again to procrastinate, not to deploy a land-based ICBM in an orderly modernization program and wait once again for a 1990's system, I am not sure what kind of reliability we look like to our allies.

But the total system is designed to deter, and that total system must be modernized. And to guarantee absolute survivability forever for any one leg is just not very realistic.

Senator Exon. Well, General, I am sure that all of us on this committee, and I think the Congress as a whole, agree that we have to maintain our triad. I think that is the real strength of the deterrent that we hope to offer to the Soviet Union.

CRUISE MISSILE PROGRAM

So about the strength of the triad, though, how are we coming along with the cruise missile program? What can you say in public with regard to that for the record? And we assume that now we are moving expeditiously along with the B1-B program. Has the IOC moved up on that program at all? Could you comment on the cruise and the B1-B?

General Davis. Certainly. The cruise missile, of course, we attained operational capability of our first wing, our first squadron of B-52's at Griffiss Air Force Base last December, and that program has done very, very well for a program that had that much controversy. I have been very pleased at how well it has done.

That is not to say as with all new systems you do not have some problems that you iron out and fix, and we are certainly still fixing small things with that system. However, they are on alert, and we have every level of confidence in them. And the cruise missile, of course, provides that bomber leg additional viability.

It cannot substitute, however, for land-based ICBM's because of the nature of the time it takes to reach its target. The B1-B is coming along very well. It is ahead of schedule and thus far under cost; and I am most pleased with it. I have every confidence that it will remain on schedule, and we are managing the cost of that program—"we" the Air Force, and "we" the Department of Defense, and "they" the contractors—very, very closely.

I review the program at least once a month, and Secretary Weinberger or the Secretary of the Air Force review that program frequently. So in terms of scrutiny and close management to be aware of cost overruns, I do not believe there is any program that has ever been managed as closely as the B1–B.

Senator Exon. Thank you, General. Those are encouraging words, and we are delighted to hear that.

General, how much input did you as the commander of SAC have with regard to the input to the President and the Presidential Commission on the MX, and did you have any contact with the President before he accepted that report?

General Davis. I had frequent contact with General Scowcroft. I appeared before the Commission for over an hour, personally briefing them on today's nuclear forces, SAC's forces, the SIOP, and what we needed to do to modernize our program.

I must say the reception was very cordial, and a lot of my recommendations ended up—and they were obviously recommendations of a lot of people—but ended up as recommendations of the Commission.

Now, I did not personally discuss the Commission's report with the President. I have discussed it with the Chief of Staff of the Air Force and the Chairman of the Joint Chiefs, the Secretary of the Air Force and the Secretary of Defense.

Senator Exon. Thank you, General. My time has expired. If there is a second round, I have a few other questions I would like to bring up.

Senator Warner. We will have adequate opportunity.

Senator Cohen?

Senator Cohen. Just a couple more questions.

AGE PROFILE OF MINUTEMAN III

For the record, General Davis, could you give us the age profile of the Minuteman III's, the age of the Minuteman boosters and the dates of deployment?

General Davis. I will provide what is unclassified for the record, and what is classified we will so label, Senator Cohen.

[The information follows:]

MINUTEMAN III AGE PROFILE

General Davis. The Minuteman III missiles were originally deployed between June 1970 and July 1975 at a rate of about 110 missiles per year. The production of the Minuteman III boosters, which began in 1968, continued until 1978. Because some of the original missiles have been replaced or recycled over the years, currently deployed Minuteman IIIs range in age from 5 to 15 years, with an average of age of 10 years.

Of the 550 missiles now deployed, approximately one-third are less than 9 year old, another third are from 9 to 11 years old, and the remaining third are between 11 and 15 years old. In this last group, only six missiles are more than 14 years old.

Senator Cohen. How many Minuteman III missiles do we currently have in storage?

General Davis. Approximately 100.

Senator Cohen. Does the Minuteman III have a hard target kill capability, in your judgment?

General **Davis**. I am not sure I can answer that directly in this open session.

Senator **Cohen**. Could you supply it for the record then?

General **Davis**. I certainly will, and I have provided that information in closed hearings. And, of course, one can infer if it had all that great capability, what are we talking about MX for?

[The information follows:]

MINUTEMAN III EFFECTIVENESS

General **Davis**. The Minuteman III is currently the best prompt hard target system in the U.S. inventory. Of our 550 Minuteman IIIs, 300 have the higher yield Mark 12A reentry vehicle, and these are [deleted]. However, the hardness of many of these targets has been upgraded to such an extent in recent years that [deleted].

We currently have a Minuteman III guidance upgrade program underway (deployment begins next year) which will improve system accuracy and [deleted] in force-on-force effectiveness. However, even after this program is fielded, a very critical group of Soviet targets—principally superhardened silos for MIRVed ICBM's—[deleted]. For example, the single shot probability of kill of an improved Minuteman III/Mark 12A against an SS-18 silo would [deleted].

Senator **Cohen**. Implicit in your statement is that it does not have all that great a capability.

General **Davis**. The implication is correct.

Senator **Cohen**. Is that because of lack of accuracy or yield?

General **Davis**. Yes.

Senator **Cohen**. Yes to which, accuracy or yield?

General **Davis**. Yes to both.

Senator **Cohen**. It has a lack of accuracy to constitute a hard target kill capability, and even if it had the accuracy, it does not have the yield?

General **Davis**. The function of accuracy versus yield, as accuracies get closer to zero, yields come down significantly. There is a crossover point in yield versus accuracy, if you get it accurate enough, which no system is designed to do today, the yield would be sufficient. And then you are talking about MK-12 and MK-12A, and the yields are different.

Senator **Cohen**. The MK-12A, does that have a hard target kill capability?

General **Davis**. MK-12A and MK-12, as I said, are found wanting. Therefore, they need modernization.

Senator **Cohen**. They are wanting in which regard, the accuracy?

General **Davis**. Yes.

Senator **Cohen**. Because as they become more accurate, as I understand it, we need less yield.

General **Davis**. Yes. Again, depending on hardness of target. As hardness increases, then yields obviously have to go up no matter what the accuracies are. Hardness is above the superhard range.

Senator **Cohen**. So the real key to having a hard target kill capability is the improved guidance, is that not correct?

General **Davis**. Yes.

Senator **Cohen**. You indicated that the land-based ICBM is the most prompt, the most accurate, the most ready of our strategic legs.

General **Davis**. Yes.

Senator **Cohen**. And then you indicated without superhard silos, it is the most vulnerable.

General DAVIS. In the scenario, if one rides out an attack.

Senator COHEN. But the Commission's report does not recommend superhardening of silos.

General DAVIS. No, it does not, because of the time line and because of the doubts that the technology is in hand; but it recommended further research and development on superhardening.

Senator COHEN. So we are left, nonetheless, with MX in nonsuperhardened silos.

General DAVIS. Yes.

Senator COHEN. Which therefore means the most vulnerable unless you attach that qualifier, unless we do not wait to ride it out.

General DAVIS. That is correct. And the point is you will get sufficient warning indication, and we should certainly leave ambiguous to the Soviet planner just exactly how we are going to react.

SOVIET UNION PERILOUSLY CLOSE TO FIRST STRIKE

Senator COHEN. Now, you indicated earlier that the Soviet Union is perilously close to a first strike. Is that because they have the capability of taking out most, if not all, of the land-based ICBM's that we have, most, if not all, of the bombers that are not on alert, and most of the submarines that are not out on duty?

General DAVIS. Yes.

Senator COHEN. I think you also indicated the Soviets will not have the capability of destroying our submarine force until certainly before the end of the century.

General DAVIS. I believe I said that technology will help solve the ASW problem. The time line, one only has to look at the phenomenal gains in the last 3 or 4 years in microprocessing, signal processing, for instance; the fact that there have been three generations of gains in signal processing, microprocessing over the last 3 to 5 years.

Senator COHEN. I think you indicated they would not, in your judgment, have an ASW capability before the end of the century.

General DAVIS. I do not believe I said that.

Senator COHEN. I thought you did.

General DAVIS. I believe I said before the end of the century, and perhaps before that.

Senator COHEN. I think the Commission indicated they felt they might develop that capability by the early or mid-1990's, by which time we would then have a mobile Midgetman missile force to then compensate for whatever deficiencies there were in the submarine leg of the triad. And that is the design of the Commission's report.

Let me just come back to one final question, Mr. Chairman. Coming back to the ability of the Soviets to destroy our ICBM force, placing that at a 90-percent capability today, if you put the MX in those silos, assuming they had a 90-percent kill capability, that would leave you with about 10 MX missiles.

General DAVIS. I am not sure I know where you got your numbers from.

Senator COHEN. I am just using the numbers everybody has been talking about for the last 8 years that I can recall, that they have a capability of taking out 90 percent of our ICBM force.

General **Davis.** I am in the business on a daily basis, and I do not recognize the number. The generally recognized number is about 30 percent survive.

Senator **Cohen.** Thirty percent survive?

General **Davis.** About 30 percent.

Senator **Cohen.** So they have a 70-percent capability?

General **Davis.** About that, yes. That is assuming that we completely ride out the attack which, for the sake of the scenario, is an assumption, not necessarily the assumption that would govern.

Senator **Cohen.** Does the MX in an unhardened silo present a more valuable target to the Soviets if they were worried about us building a first strike capability? Would the MX present a more valuable target to them?

General **Davis.** I think they would be concerned certainly about the deployment of MX, but the deployment of MX is, of course to provide for deterrence, and more importantly, to give the Soviets an incentive they do not have today to negotiate sizable reductions—not a bargaining chip but a capability, a real capability to be deployed.

Senator **Cohen.** That is all I have, Mr. Chairman.

LAUNCH ON WARNING POSTURE

Senator **Warner.** Do you believe the deployment of the MX in Minuteman silos would result in the United States adopting a launch-on-warning posture?

General **Davis.** I do not.

Senator **Warner.** You have stated that the MX would not be survivable; that is, in numbers greater than those you have given to Senator Cohen, if we rode out the attack. As a practical matter, would riding out the attack no longer be an option?

General **Davis.** The discussion, Senator, unfortunately of launch policy of this country and a finite discussion of what you would or would not do, although interesting certainly, I do not believe serves our purpose that well. But let me say, as I have discussed at length in our closed hearings when we talked about methods of executing our forces in terms of retaliation and the fact that the entire triad must be attacked, that we are satisfied with the launch rate if we ever had to launch.

The picking apart of each leg, and again the analytical approach of zeroing in on the land-based ICBM, of course gets away from the essential triad argument, which the Commission, I thought, did an eloquent job of explaining; that is, if you do not modernize and, as former Secretary Brown pointed out, we have procrastinated for well over 10 years on any land-based ICBM modernization. And it is not a matter of attacking one leg in isolation. It is the viability of that triad and the great deterrence that the triad provides you.

Yet—and I understand the committee's problem with satisfying all of these answers—but when you pull and tug and pick it apart, you subject each leg of that triad to its vulnerabilities.

Senator **Warner.** General, I am going to ask some basic questions now. Bear with me.

Senator **Cohen.** Senator Warner, could I just ask one question?

Senator **Warner.** Senator Cohen?

MINUTEMAN III LACKING HARD TARGET KILL

Senator **Cohen**. Just for the record, perhaps you could clear this up for me, General Davis, because I am a bit confused about the testimony we get from time to time.

You indicated before that the Minuteman III does not have a hard target kill capability because of the lack of either accuracy or yield. I am looking at the military posture statement which was submitted by the Joint Chiefs. On page 15 it says:

> Minuteman III is a long-range missile which can be remotely targeted and launched within minutes with an accuracy that provides a wide range of deployment options, particularly against hard targets.

General **Davis**. Yes. And the point is a point of definition, and one looks at the single shot probability of kill against hard targets.

Now, if you double up, you certainly improve your rate of kill, but an acceptance against hardness—and we are talking now about the systems and I presented in closed hearing the results of that, which I know you saw—and it is based on the results of that war game that we are convinced we need to improve that capability.

Senator **Cohen**. Thank you, Mr. Chairman.

Senator **Warner**. Back to basic questions.

BAN ON HARD TARGET KILL AT SEA

We have had witnesses testify to certain statements, and I want the rebuttal in the record. Last week Dr. Jeremy Stone suggested that the United States should pursue with the Soviet Union a ban on either side's acquisition of hard target kill capability at sea. He suggested that the prevention of such deployments as the D–5 missile is necessary to insure that the Soviets do not acquire a capability to execute a simultaneous attack against our ICBM's and bombers with their sea-based forces.

Would you comment on that?

General **Davis**. The verification of such a treaty—I am not sure you could verify such a thing. I do not know how you would do it. And our record of precluding deployments of systems with the Soviets has not been all that good.

Senator **Warner**. You would primarily be limited to the testing program, I presume.

General **Davis**. Yes. And you would have to have nonencryption.

Senator **Warner**. Again and again this argument is put forth, the argument being there is no need for the United States to increase its hard target kill capability. It is said that there would be only empty silos in the Soviet Union if the United States were to attempt to respond to a Soviet first strike by going after the U.S.S.R.'s high value targets.

General **Davis**. And as we have discussed, the Soviets have a significant capability with their numbers of land-based ICBM's. With the number of re-entry vehicles, they do not need to execute even half that force to accomplish good results against the United States. So the idea—and, of course, we know about the Soviets from reading their literature and observing exercises, and the thought that everything would be launched in one attack I do not believe is an accurate assumption. So there certainly will be missiles remaining in silos in the Soviet Union.

Senator **Warner.** Of course, there are many other targets in the hard target category.

General **Davis.** Of course, there are—command and control leadership, nuclear storage, submarine bases. There are certainly plenty of those.

Senator **Warner.** Let me turn to General Fornell now.

General, your present assignment, as I understand it, is project officer?

General **Fornell.** Yes, sir. I am the Special Assistant for Peacekeeper Matters and work for General Skantz, the Deputy Chief of Staff for Research and Development.

Senator **Warner.** And you assisted the Commission in certain technical areas of its evaluation?

General **Fornell.** Yes, sir. We supported the Commission in providing the Air Force input as far as technical expertise in their view, both from a contractor, Air Force, and other service inputs to the Commission's report.

Senator **Warner.** To what extent did you advise the Commission with respect to the time within which the United States could be expected to develop and deploy a small missile of the Midgetman concept?

General **Fornell.** We advised the Commission following independent inputs from the most probable contractors that are capable of building, developing, and producing a small-type missile based on their current activities. We used the experience that we have had in other major weapons system developments, primarily in the missile area, and used our most experienced ballistic missile office personnel to take a generic look, if you will, in building a missile that satisfied the requirements that the Commission had laid out. Not to get specific as far as a certain motor, a certain guidance system and a certain warhead suite, we developed that missile based on weight, range, payload requirements, the type of things operationally that we needed it to do, costed that out, and based on our experience estimated the time that we could meet an early 1990's IOC with a small missile.

Now, there is a pace that is reasonable, and I think the Commission concurred in their final analysis that it would be wise to proceed in an orderly fashion so that when you deploy this weapon with the uncertainties that we have currently in a paper design, that those uncertainties are adequately addressed through test and evaluation before the final deployment of a missile in either a silo mode or a mobile mode.

Senator **Warner.** What are the principal aspects of the small missile program that would require such extensive periods of time?

General **Fornell.** Sir, it is primarily in the guidance area, and we are talking a totally new development, and our experience, I think both from a missile and an aircraft standpoint, roughly a 10-year development cycle nowadays. There have been examples of cases doing better than that time-line.

The primary areas of uncertainty, though, are in the guidance and then in the propulsion system required to get the range of payload combination you would need to effectively cover the whole target base of the Soviet Union.

I think those two areas—and as we went through a full small missile evaluation a number of years ago within the Air Force, even the basic propellant technology is such that there is a considerable amount of development work to be done in that area.

Senator WARNER. There are no restrictions, informal or formal, placed on those principal contractors or anyone else in terms of coming forward with their independent evaluations, are there?

General FORNELL. No, sir. Each of them had in fact two complete sessions with the Commission, presenting their best schedules, their best cost estimates possible, and then in a final analysis giving their idea of the technical risk involved, the development time required, and what would essentially be in their mind a form of deployment which would provide survivability as you think in terms of mobility primarily, and being always open to a basing mode which would include a hardened silo permanent site type basing arrangement also.

Senator WARNER. Senator Exon, would you like another round?

Senator EXON. Mr. Chairman, thank you very much.

General Davis, I would like to return, if I may, to the survivability matter, which is a nagging problem; and you addressed it somewhat. Let us go into it a little bit further. Let me ask you this question.

SURVIVABILITY ISSUE OF MX

If you personally had the choice to make with regard to the deployment of the MX missile as it affects our national security, as it best affects our national security posture, would you be in favor of the deployment in the admittedly vulnerable Minuteman silos, or would you have preferred some other mobile deployment system which would have given us more survivability for the MX?

General DAVIS. I believe from a pure military point of view that the concept of closely spaced basing was the most innovative system that we had come up with in 20 years, and from a military point of view, that made the most sense. If, indeed, the technology was available and we were assured that it was available in the timeframe to indeed make them superhard, and then the concept of fratricide, well understood, not agreed to by all physicists—physicists do not share common agreement on a lot of things.

However, as you remember, in November of 1981 my concern was we were really strung out on the issue of vulnerability or survivability and had lost sight, from my point of view, of the most important thing, and that was deterrence. And how do you secure deterrence? You secure deterrence by deploying a new and better capability, a capability to hold at risk those most valuable parts of the Soviet Union; that is, his military capability and his hardened leadership.

So my first pick has always been, given dollar constraints, given time constraints, given the necessity, the critical necessity of getting on with arms reductions and arms agreements, was to deploy that system as soon as possible. And the only way you could do that reasonably—and it was not by accident that MX was designed to fit the Minuteman silo, because it was indeed Minuteman IV; it was indeed the logical, modernized ICBM follow-on to Minuteman III.

From a pure military point of view, the best basing mode, from my point of view, is closely spaced basing, multiple protective shelter—

a good system also that I would have to rate second to closely spaced basing.

Senator EXON. You indicated that the MX was really a Minuteman IV.

General DAVIS. Well, that is my——

Senator EXON. I am going to read you three statements which I think maybe get to the heart of this nagging problem that is affecting many of us, and that is the survivability. If the MX was really Minuteman IV and was designed to be placed in what we came to understand in about 1979, through intelligence sources, were vulnerable silos, I want to cite you just three sentences I think are the heart and soul of the survivability problem, all in 1981, the first from the present Secretary of Defense Weinberger, January 6, 1981:

> I would feel that simply putting it—the MX missile—in existing silos would not answer two or three of the concerns that I have. Namely, that these are well known and not hardened sufficiently, nor could they be, to be of sufficient strategic value to count as a strategic improvement of our forces.

Again in 1981 on January 29, Chief of Staff of the Air Force, General Allen:

> Those views are that an essential feature of the MX deployment is that the basing mode be survivable. One does not obtain that through placing it in Minuteman silos. Therefore, I do not favor such a deployment.

And then General Ellis, your predecessor as Commander of SAC, February 18, 1981:

> We must correct our vulnerability by developing MX in a mobile basing configuration.

And from the same testimony in reply to a question:

> Senator, if we had the mobility in the Minuteman Force that we are building into the MX force, we would not need it, the MX force at all.

Those are quotes, and those are people that I know you have high regard and respect for. I guess what is somewhat confusing to us here is the fact that there seems to have been a decision to go against the majority of the testimony that we have received warning us against placing the MX in the admittedly vulnerable silos.

Can you explain that a little bit further? Has something happened in the last 2 years that has not been sufficiently explained that should be explained now that basically has caused what seems to be a rather dramatic shift in what we were thinking about just 2 years ago?

General DAVIS. Yes, Senator Exon. I will give you my explanation.

I think the Commission report does an admirable job of explaining this two-phased approach, the fact that a very large missile while mobile with very large equipment, it really has limited mobility. But a reassessment of our capability and the two-phased approach, that is the deployment of MX in existing Minuteman silos for deterrence, for arms control leverage is, indeed, the proper way to go.

The Commission was also seized with looking at a program and trying to grapple with the survivability issue and concluded with the overall deterrent effect of the triad that MX in Minuteman silos was proper and R&D and the necessity of a two-phased approach, that is mobility, single warhead, to perhaps convince the Soviets that that was the best way to go in future arms control. That is, de-MIRVing, and I think the Commission's report presents a very, very coherent picture of that. And in the reassessment as you look back at 1981 and the reassessment of absolute survivability and the necessity for getting on with it which they concluded, I think, are valid conclusions and what has changed the conclusion that programs, various programs proposed were not acceptable to the Congress.

They simply were not going to be approved, and in this reassessment this was the best way to go and admittedly did not solve the survivability problem.

Senator EXON. I believe my time is up, Mr. Chairman.

Senator WARNER. We will have additional time. Senator Levin, if you are ready we would be happy to go to you for any questions you might have.

Senator LEVIN. Thank you very much, Mr. Chairman. Good morning, General.

General, I think you have indicated that the main justification for the MX is weapon systems obsolescence. That contradicts prior statements that the Air Force has made to this committee about the high reliability now of the Minuteman force and how it is going to remain a key weapon system into the next century.

How do you explain that contradiction?

General DAVIS. It is not a question of reliability of today's system. It is a question of the effectiveness of them against the target structure and the necessity for deploying a high quality, far more accurate system with additional warheads in order to counter the threat in order to promote deterrence. We never talked about reliability. We talked about effectiveness.

Senator LEVIN. What is the hard target kill capability of our weapon systems projected to be continuing in 1990 say with or without MX? Can you give us those figures?

General DAVIS. Not in this open hearing, Senator. I cannot give them, not in an open hearing.

Senator LEVIN. Are you able to give us a general idea in an open hearing as to what percentage of hard target kill capability the surviving MX will add in 1990?

General DAVIS. I have provided those, of course, in closed hearings to this committee that you were present at, on charts. Those have been provided. It would not be appropriate to get into those numbers at an open hearing, but the increases are significant.

Senator LEVIN. In hard target kill capability?

General DAVIS. Yes.

Senator LEVIN. I think we have been provided these figures in open hearings as to what the percentage of our various systems would survive in an attack by the Soviet Union.

General DAVIS. I will be happy to provide those for the record appropriately classified, Senator.

[The information follows:]

TRIAD SURVIVABILITY

General DAVIS. I have high confidence that our alert bombers and SLBMs at sea would escape enemy action. I additionally believe that if we are attacked, a prompt retaliatory launch decision [deleted] be made that would survive a large majority of our ICBMs. That is opposed to a scenario where the NCA elects to absorb a complete attack on our Triad of forces prior to making the decision to retaliate. It must be understood that a prompt retaliatory launch is absolutely not a "kneejerk" response; it is a decision based on undeniable confirmation of a Soviet attack. I must also add that sole concentration on survivability percentages, especially given the complex variables inherent in such calculations, does not represent the most useful measure of force effectiveness. All too often, our force elements are analyzed in isolation, thus disregarding the synergistic effects of our total Triad force structure.

This concept of force synergism was clearly outlined in the recent "Report of the President's Commission on Strategic Forces." The report highlighted how the strategic diversity of U.S. forces presents the Soviets with a variety of complicated attack problems, and pointed out that any attack against a single U.S. force element would cause them to sacrifice effectiveness against the other U.S. strategic components. For example, if the Soviets choose to attack U.S. bomber forces with SLBMs, it would allow U.S. ICBM retaliation. Similarly, an attack against U.S. ICBMs by Soviet ICBMs would enable bomber escape and retaliation. Neither attack would overcome the challenge offered by the U.S. SLBM fleet. Just as the Soviets must consider our total strategic capability, it is counterproductive for us to analyze our potential vulnerabilities in isolation.

These strategic realities make isolated survivability estimates of limited benefit.

Senator LEVIN. Let me ask you a slightly different question. Will you make an assumption, I think, on the record in public hearings as to what percentage of our Minuteman missiles would survive a Soviet first attack. Is that it? Is that not true?

General DAVIS. Yes, in several different scenarios.

Senator LEVIN. And can you tell me what percentage do we assume would survive now a Soviet first strike against our Minuteman—would survive a Soviet first strike?

General DAVIS. There are again various scenarios, Senator Levin, prompt response, complete ride out, and I went through that earlier with Senator Cohen, and the number is about 30 percent survive a complete ride out.

Senator LEVIN. Is that number the same number that would survive in the late 1980's? Is that the figure we use for the late 1980's?

General DAVIS. Approximately.

Senator LEVIN. Is that the figure that we assume would survive for the MX, too?

General DAVIS. Let me again point out that is only one scenario.

Senator LEVIN. In that scenario is that the percentage we would assume for the MX in the late 1980's and early 1990's?

General DAVIS. Yes.

Senator LEVIN. Have we not on prior occasions been told that with greater Soviet accuracy that we could no longer assume more than a 10-percent survivability?

General DAVIS. I believe those are based on intelligence projections into the 1990's, and I would have to review those once again and provide those for the record appropriately classified.

[The information follows:]

U.S. ICBM SURVIVABILITY

General DAVIS. Senator, as I explained in my previous answer, it is inappropriate to consider ICBM survivability in isolation. Each of our strategic systems contributes to the survivability of the others. In the final analysis, deterrence is based on Soviet perceptions of a potential U.S. response, not on scenario-dependent U.S. survivability predictions. Given the conservative nature of the Soviets, it seems unreasonable to assume that they would accept our most pessimistic survivability estimate as the probable outcome of a Soviet/U.S. nuclear exchange. Regardless of the conditions of war initiation, they simply cannot discount the possibility of a prompt retaliatory response.

In any event, the 10 percent ICBM survivability rate you quote is [deleted]. Our analyses predict that a prompt retaliatory launch of U.S. forces would enable successful launch of nearly all ICBMs. Certainly, a decision to retaliate made only after absorbing a complete Soviet attack upon the U.S. Triad of forces, would result in decreased survivability levels over an extended period of time, but no reasonable estimates predict survivability rates as low as you surmise.

While stylized analytical scenarios conducted in isolation can mathematically derive ICBM survivability estimates of 10 percent or less, the strategic challenges U.S. forces present to the Soviets are more complex than these simplistic scenarios describe. As a result, such scenarios are of little value in evaluating current levels of ICBM survivability and, more importantly, ignore the synergistic contributions of a total force structure comprised of bombers, SLBMs and ICBMs.

Senator LEVIN. To your knowledge, has it not been stated on prior occasions publicly that the percentage that would survive an attack by the Soviet Union if we rode it out would be in the area of 10 percent after Soviet accuracy was improved in the 1980's?

General DAVIS. I am not aware, but that may very well have been stated.

Senator LEVIN. Would you prefer that we base these missiles in a survivable system, if we could?

General DAVIS. I believe the President's Commission report very coherently points out that problem. It is a two-phased approach, the fact that prior basing modes have not been approved by the Congress that in our critical need to improve our deterrent posture that the two-phased approach MX and Minuteman silos and an R&D program and on a small mobile single warhead system is the best way to go, and I agree with that.

Senator LEVIN. Would you prefer that the MX be based in a survivable basing mode if that were possible?

General DAVIS. Certainly from a military point of view, but I think it is abundantly clear that that is not possible.

Senator LEVIN. And why is it not possible?

General DAVIS. I think the record stands for itself.

Senator LEVIN. Well, could you summarize what you believe are the impediments to basing it in a survivable mode that you would prefer militarily?

CLOSELY SPACED BASING

General DAVIS. Well, as I pointed out earlier before your arrival, I believe basing in closely spaced basing is the most innovative basing system that we had come up with in some 20 years. The Congress saw fit not to approve that system for a lot of reasons.

I believe the two-phased approach of MX and Minuteman silos and the R&D on the small mobile is the best way to go.

Senator LEVIN. Not militarily, but you are saying that is the best practical solution to a problem that you do not see any other solution to?

General DAVIS. Well, the proposed military solutions to a lot of problems, not just strategic weapons, have not always been forwarded. So in a very practical matter, yes.

Senator LEVIN. What about MPS? Would you prefer that to this proposal if it were possible?

General DAVIS. Theoretically, yes, but it would be second to closely spaced basing.

Senator LEVIN. So there is at least two military solutions you would prefer to this one?

General DAVIS. I prefer this system.

Senator LEVIN. I understand that. Militarily you would prefer at least two other alternatives if they were politically possible?

General DAVIS. Again, a very hypothetical question.

Senator LEVIN. I am asking your preference.

General DAVIS. That is a very hypothetical question.

Senator LEVIN. Whether the question is hypothetical or not, I think it is important we have your military preference. Is that a summation of your military preference that if we could get MPS or closely spaced basing that that would be your preference?

General DAVIS. I prefer the proposal submitted by the Commission as the best way to go at it.

Senator LEVIN. Militarily?

General DAVIS. Militarily and practically.

Senator LEVIN. Do you agree with this statement of Gen. Lou Allen that an essential feature of the MX deployment is that the basing mode be survivable?

General DAVIS. I believe that statement was made by General Allen in 1981, and an objective of survivability is certainly very, very important.

Senator LEVIN. Do you agree with him that it is an essential feature?

General DAVIS. No; it is not an essential feature. The absolute survivability is probably unattainable. As much survivability as one can provide for a system in conjunction with the triad and the triad has to work together.

Senator LEVIN. You agree it is a desirable feature?

General DAVIS. Certainly, as much survivability as is practically possible.

Senator LEVIN. Politically and militarily?

General DAVIS. That is what practical means to me.

Senator LEVIN. Do you think it makes any difference whether or not we assume there would be a 10-percent survivability or 30-percent survivability if we rode out a Soviet first strike?

General DAVIS. There certainly does.

Senator LEVIN. Are you able to tell us on the record what your assumption is for the MX for the late 1980's and early 1990's?

General DAVIS. Again, I will be happy to provide that for the record.

[The information follows:]

FUTURE ICBM SURVIVABILITY

General DAVIS. Only the most pessimistic scenario—and one that could hardly be assumed by the Soviets—would result in unacceptably low Peacekeeper survivability. If they were to mount a dedicated ICBM attack on Peacekeeper, and the President's retaliatory orders were delayed until after absorbing a complete Soviet attack, Peacekeeper survivability would be seriously degraded. However, as I have said, this is only one of many scenarios the Soviets must consider when evaluating the potential U.S. response to an ill-advised preemptive strike.

Although ICBM survivability is certainly a significant consideration, it is far from the only, or even the most important, attribute needed to maintain an effective deterrent. The most important factor lacking in our capacity for effective response—and thus, our ability to maintain deterrence—is a prompt retaliatory hard target capability.

The plain and simple fact of life is that the Soviets can threaten our land-based deterrent forces and we do not possess a comparable capability. A silo-based Peacekeeper will resolve this fundamental and destabilizing imbalance by placing at risk the Soviets' newest and most lethal strategic assets. In effect, we need the Peacekeeper to blunt the Soviets' warfighting advantage so that they could never believe they would prevail in a nuclear conflict—this is the essence of deterrence.

MX SURVIVABILITY RATE

Senator LEVIN. Mr. Chairman, I think we have been given that figure in open session before, and if we have, I would like to know, and if we have not, I will stand corrected.

Senator COHEN. As I recall, Mr. Chairman, that was a closed session we had with war gaming.

Senator WARNER. That is my recollection.

Senator LEVIN. That figure because we have heard those figures for the last 2 weeks.

Senator WARNER. We have been in this subject for the last 2 years, and at this point in time there is not much we can do.

General DAVIS. I would like to provide those at this session, but I deal with that all the time and I can tell you it has not been provided by me in open session.

Senator LEVIN. Well, Mr. Chairman, could we do this? Maybe the General could help us.

Senator WARNER. This room has not been cleared technically for a closed session.

Senator LEVIN. My question of the Chair is this. If, in fact, we have had testimony in the last 3 weeks on the survivability rate of the MX in open session, could we ask the General to provide us that rate in open session?

Senator WARNER. We would be glad to clarify if for the Senator. As a matter of fact, we will ask the Secretary of Defense for a clarification.

Senator LEVIN. And also if we could get that from General Davis, if, in fact, we have been discussing the issue of the survivability rate in public session, could we then ask him for the record to give us his opinion as to what that rate would be, his assumption?

Senator WARNER. The Senator's point is well taken. We will have that clarified.

Senator LEVIN. Thank you, Mr. Chairman. My time is up.

Senator WARNER. I might mention to my colleagues several alternatives. We can continue with the questions, or we can invite the General and his staff to give us a special briefing that they have prepared on the importance of integrating the MX into the overall strategic system.

The Chair is of the opinion that we should adhere to the schedule previously announced at 10:30. The subcommittee will hear testimony from three witnesses, Dr. McGeorge Bundy, Dr. William J. Perry, and Adm. Noel Gayler.

Therefore, I open up the subject of additional questions or proceed to the Air Force briefing. What is the pleasure of the members of the committee?

Senator COHEN. I would recommend we go to the briefing.

Senator **Warner.** Are there additional questions from the other side?

Senator **Exon.** Mr. Chairman.

Senator **Warner.** Senator Exon?

Senator **Exon.** General, I compliment you. You know, some of the questions we have put to you are much better handled in closed session, and I agree with what the chairman just said. I think the sooner we get to a closed session on some of these questions the better. I would appreciate a closed session.

SOVIET TESTING OF NEW MISSILES

But what can you say publicly as to your view of the present controversy that is going on with regard to the supposed testing of two new missiles by the Soviets? There has been press speculation by Members of Congress that the President may be holding back some information in this regard that would be particularly helpful to us in making our determination. I am sure you know about that. If so, what can you say about it in open session?

General **Davis.** Well, let me just give you my personal opinion, Senator Exon.

There is, indeed, abundant evidence that the Soviets have tested two different missiles. They are not the same missile. They are two different missiles. The question, and of course the Soviet's response, yes to one and to the other it is an improved SS-13, which I do not believe. But, of course, when one opens this discussion up one is naturally concerned with what the technical intelligence community will say, and they are very conservative. They obviously would like to see more evidence because they do not want to be second guessed either, and perhaps we operators reach conclusions without a whole chain of evidence.

I believe there is a chain of evidence. There is no question that two missiles different from any others have been test fired, and I think it is something that we should be very, very concerned about. But with the move to encryption of telemetry it is difficult for the technical intelligence community to prove beyond a shadow of a doubt that, indeed, they are two new missiles and they are reluctant to state that. I am sure that has a lot to do with the President's reluctance to state that to open himself up to criticism, but I am very concerned, very concerned that we the United States have foregone any test firing of MX which is ready to test fire.

I do not think we have lost any ground as long as the Congress approves the deployment of MX, and we can test fire the MX this summer, but the Soviets are certainly not so constrained. If I had to guess, we will ultimately determine that they have, indeed, test fired two new missiles.

Senator **Exon.** Thank you, General.

ESSENCE OF DETERRENT

One more question that again is nagging us here, and we have talked about it some. Could you be a little more definitive as to how you feel about this business of what is the "essence of deterrence." I think that is a phrase which is bandied about a great deal, and it seems to me at least that the essence of deterrence that the military structure has generally been in favor of in the past is basically that deterrence is best served by riding out an attack.

That was basically that scenario which was used with the multiple protective shelter system that we would ride out an attack and then we could strike the Soviet Union and, therefore, they would be deterred from the first strike and also that that posture made our deployment of the MX in an MPS system or in a closely spaced basing system more stable or that we would not be destabilizing by going to a first strike weapon as we have been accused of by some or launching under attack. The statement has been made frequently that deployment of the MX in nonsurvivable Minuteman silos has the tendency to eliminate any chance of our "riding out an attack." I think that it has been pretty well established.

Is it fair to assume then, that deploying the MX in vulnerable Minuteman silos does make the MX a more destabilizing weapon than it would be either in closely spaced basing or in multiple protective shelters?

General DAVIS. A lot of points and a lot of questions which we have answered in the past and disposed of, or at least I have answered in the past, obviously questions remain and they always will.

ESSENCE OF DETERRENCE

First, the essence of deterrence. The Soviets are deterred when they are not sure whether or not in the event of an exchange whether there is a margin of victory for them. That is, they are deterred when they are not sure when the damage to the Soviet Union is such that they do not emerge a clear winner. That is the essence of deterrence. All other thought, of course, adds to support that.

The retaliatory policy of the United States, and I am as aware, probably more aware than anyone else since I deal with this on a daily basis, and the destabilizing nature and the first strike nature of MX if you deploy it in vulnerable basing. Of course, that assumes that you are going to ride out the attack completely and a public discussion of whether or not you are going to launch on warning and whether retaliation means you have to completely ride out a nuclear strike. The more ambiguous you can leave that point the better off you are.

You should not discuss U.S. strategy, and I do not think anyone has ever seriously defined ride out as riding out a complete attack. That would be suicidal, so a prompt response on the part of the United States with the capability to hold at risk the new super hardened silos and the super hardened command and control network is what genuinely deters.

A discussion of first strike which we had earlier, a discussion of first strike or destabilizing weapons, you had better have the capability to completely destroy his capability and that is what first strike means to me and 100 MX's certainly will not give that to you.

Senator EXON. Thank you, General. One last question, and I appreciate the general being here with us today.

WINNING AN ALL-OUT NUCLEAR EXCHANGE

Given the strength of the Soviet Union today, their overall nuclear strength, and given our overall nuclear strength without any advancements on either side in the future, can you envision a scenario where any sane person either in the Soviet Union or the United States could envision any scenario where they could "win" an all-out nuclear exchange?

General DAVIS. That is a difficult question. It is easy in general terms, and the answer is probably no. On the other hand, there is a significant Soviet civil defense system built over the years. There is indeed a survivable way, a way to insure the survivability of their leadership.

Senator WARNER. You are talking about the Soviet Union?

General DAVIS. Yes, the Soviet Union. Civil defense, survival of leadership, but I think more important is the fact that the Soviets have modernized over the years, and particularly with the deployment of this fourth generation set of SS–17's, SS–18's, and SS–19's, they have tended to operate more and more with impunity, either they or their surrogates, around the world, and if one says, well, you would never use nuclear weapons to stop that, that is absolutely true, but I think it is a historical fact that the more military capability a nation has which has expansionist views, and thank God this country has never had expansionist views, the more tempted they are to expand around the world.

And I think that is a key problem. Now, there is, and we all know it, there is a concern of heightened tensions throughout this country and certainly throughout Europe that nuclear war is imminent. I do not believe nuclear war is imminent. I believe both nations need to reduce the level of strategic nuclear weapons and tactical nuclear weapons, but we all know the Soviets for what they are. They are hard bargainers. They are very defense-minded, and they are not about to sacrifice their expensive and hard-earned gains they have made until they see that the United States is going to make the same commitment.

Senator EXON. General, thank you very much for being here. We appreciate it.

Senator WARNER. Thank you, Senator Exon.

Now, gentleman, as I understand it, you have a special briefing on the MX to provide for the committee.

General SHAUD. Senator Warner, we appreciate being here this morning. If you would give us a few minutes to get set up.

Senator WARNER. Why don't we take a 2-minute stretch?

[Whereupon, a brief recess was taken.]

Senator WARNER. General Shaud, we are ready if you are. Thank you, General. Let us proceed.

U.S. ICBM MODERNIZATION PROGRAM

General SHAUD. I am General Shaud from Air Force Plans, and with me is General Fornell from Air Force R&D. What we think we will be able to do is to frame many of the issues that we have spoken to already this morning. I will cover the requirement for land-based ICBM. General Fornell will look at the developmental aspects of the Presidential Commission's report.

PRESIDENT'S RECOMMENDATIONS

Deploy 100 Peacekeeper missiles in existing silos at F. E. Warren Air Force Base.

Initiate engineering design of a small, single-warhead missile.

Conduct technology programs (superhardening, land-mobile vehicles, and ballistic missile defense).

As you know, sir, on the 19th of April, the President reported that he would like to deploy 100 MX missiles in existing silos in Wyoming and Nebraska. These missiles will be serviced from F. E. Warren Air Force Base near Cheyenne. Also, we are stepping up the development of a small missile and pursuing some research and development in terms of superhardening, and also in terms of all forms of ballistic missile defense.

U.S. NUCLEAR STRATEGY

Deter war:
  - **Insure that Soviets believe war outcomes are uncertain and dangerous.**
  - **Place at risk what Soviets value most: Forces and political/military command structure.**
  - **Insure the capability to retaliate.**

Support U.S. arms reduction proposals.

Support deterrence and nuclear modernization in NATO.

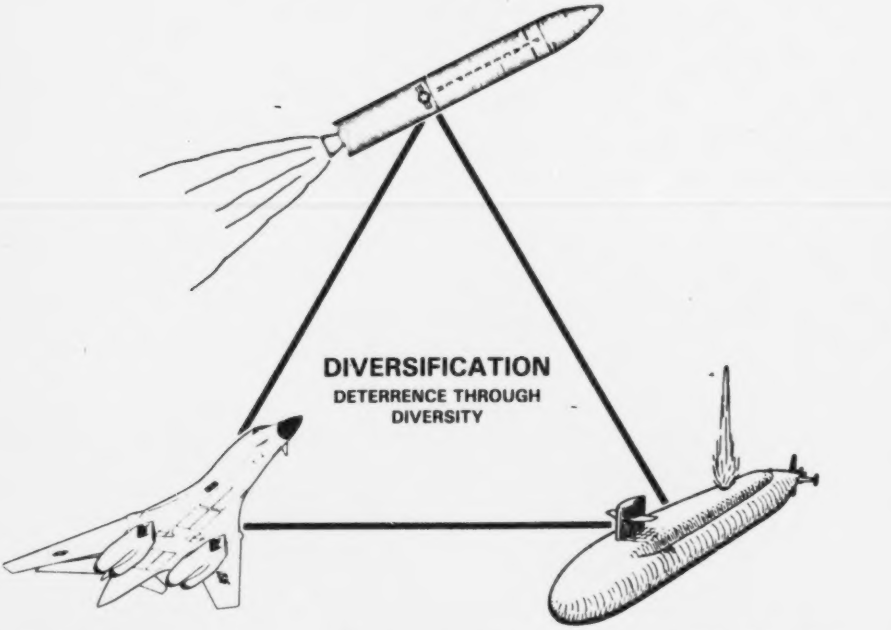
Very briefly, this is our nuclear strategy. First and foremost, the objective of the exercise is to deter war, and as General Davis has said earlier, our main objective is for the Soviet Union to find if they would start a war it would be so uncertain and so dangerous in outcome that they are deterred in fact from doing that.

The way we make sure this happens is with some sort of retaliatory capability, and also to place at risk what he values most. This, of course, is his political leadership perhaps in hardened bunkers and also his strategic retaliatory force.

I think importantly in our nuclear strategy we support arms control proposals. It is our feeling that a strong and capable triad will in fact provide incentives for the Soviet Union to come to the bargaining table.

And finally, there is a relationship with our allies. As we have a strong deterrent, they feel comfortable with a nuclear umbrella in NATO and also are able to make the very difficult nuclear modernization decisions that are going on in Europe right now.

U.S. STRATEGIC TRIAD



- DILUTES SOVIET RESOURCES
- COMPLICATES SOVIET ATTACK PLANNING
- HEDGE AGAINST FAILURE/TECHNOLOGY BREAKTHROUGH

The cornerstone of all of this is our strategic triad. The main idea of the triad is, of course, diversity. As General Davis mentioned early on, the bomber provides great flexibility. We have the prompt hard target kill capability of the land-based ICBM, and then the survivability of the SLBM. What this does is greatly complicate the Soviet planner's problem in that he must be ready to defend and also he cannot attack the United States without some consideration of suffering untenable damage as part of the triad would be available to in fact retaliate.

Finally, I guess, from a pragmatic sense, very important about the triad is, it provides us a hedge in case there are in fact technological breakthroughs or some kind of problem with a leg of the triad. My next slide will illustrate this.

Examples of Triad Success

1960's—ICBM and SLBM missile hardness deficiencies; bomber penetration uncertainty.

1970's—Bomber commitment to Southeast Asia; SLBM reliability problems.

1980's—ICBM effectiveness/survivability degradation.

1990's—?

This is not theoretical, of course. This has in fact happened. In the 1960's we learned a lot about nuclear hardening, electromagnetic pulse, and initially had to look at RV's, reentry vehicles, to make sure they were in fact hardened. On the bomber side of it, our high altitude penetration became less tenable. I think of interest to this committee, our solutions are not always hardware dollar oriented, but sometimes it is just thinking about the problem a little harder, and in this particular instance the bomber developed low altitude tactics.

In the 1970's, of course, we had an extensive B-52 commitment to Southeast Asia, and this land-based and sea-based leg of the triad was able to pick up those targets, and finally, we had a problem with the motors on the SLBM's. We were able at a regular pace to fix those motors without worrying about a degradation of our strategic retaliatory force.

In the 1980's, right now, we have a problem with ICBM effectiveness and survivability, and I will talk to that at great length. We do not know exactly what the 1990's hold. There were those who would argue for a diad, but we feel that the diversity of the triad presents a hedge that in case there is a breakthrough as a result of Soviet technology, that we will be able to maintain a very efficient triad of force.

ICBM CONTRIBUTIONS TO DETERRENCE

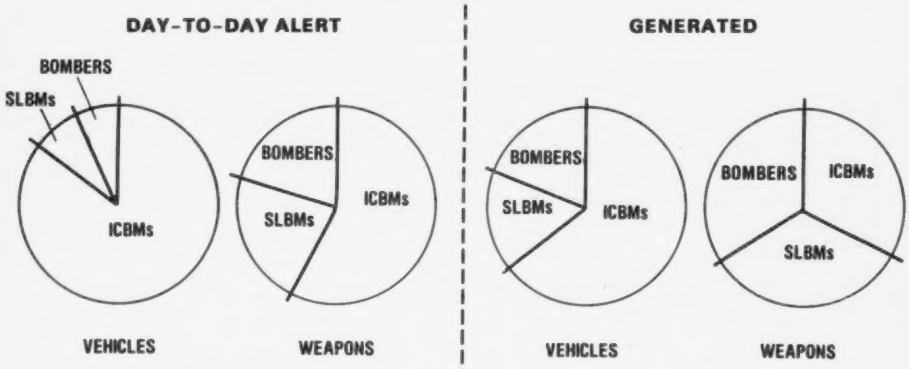
STRENGTHS		BENEFITS
CONTINENTAL U.S. BASING	→	RAISES NUCLEAR THRESHOLD AND IS SECURE IN CONVENTIONAL CONFLICT
PERCEIVED BY SOVIETS AS DOMINANT STRATEGIC SYSTEM	→	PERCEPTION OF STRENGTH
REDUNDANT COMMUNICATIONS LINKS	→	CONTROL AND SECURITY
RAPID RETARGETING/ SELECTIVE EMPLOYMENT	→	ESCALATION CONTROL
PROMPT COUNTERMILITARY CAPABILITY	→	DEFEATS SOVIET STRATEGY, LIMITS DAMAGE TO U.S.
LOWEST OPERATIONS AND SUPPORT COSTS	→	RESOURCE EFFICIENCY
HIGHEST ALERT RATE	→	DISCOURAGES SURPRISE ATTACK

This shows the ICBM's contribution to deterrence. First of all, continental basing. This keeps the nuclear threshold hard. A Soviet planner would have to make a very difficult decision to in fact attack U.S. homeland. He would be certain of some sort of retaliatory strike. The ICBM is perceived by the Soviets as the dominant system; 70 to 75 percent of his strategic forces are in fact land-based ICBM's. I think in the business of deterrence perception is very, very important, and the Soviet in fact equates strategic forces with ICBM's.

With the ICBM, we have .the redundant communication link's ability to very promptly get hold of the silos, so early on in any conflict we can work our retargeting problem, and it can be immediately responsive to the National Command Authority. The ICBM alone has a prompt hard target kill capability by virtue of these communication links, its very rapid time in flight, and also its accuracy and yield, which would in fact, as we would attack hardened C^3, for example, in the Soviet Union, take away the confidence that the Soviet planner might have that he could carry out a very difficult attack. The Soviet offensive attack would be very difficult to orchestrate, and if we can get there rapidly, we would take away the thought that he might be able to carry it off.

Finally, I think, of interest, if you will, from a businessman's point of view, the low operation support cost of the ICBM. This is not a surprising result, in that we do not need to fly or sail ICBM's, and in fact it only takes about 12 percent of the strategic ONS costs. It has the highest alert rate. Again, as General Davis mentioned, the alert rate approaches 100 percent, while the other legs of the triad are just about 30 percent.

STRATEGIC TRIAD CONTRIBUTION
ICBM KEY ELEMENT



LOW OPERATIONS AND SUPPORT COSTS:
ICBM ABOUT 12% OF TRIAD O&S

This slide illustrates what I have been talking about. In the day-today alert case, well over one-half of the weapons on alert are provided by ICBM's, and over 75 percent of the vehicles. This is 7 days a week, 365 days a year. Now, with sufficient strategic warning, we go to the generated case. Here we balance our triad, making certain that the Soviet Union cannot concentrate on any one leg. As I mentioned before, low operation and support costs recommend the ICBM as an investment in our strategic force.

U.S. ICBM FORCE WEAKNESS

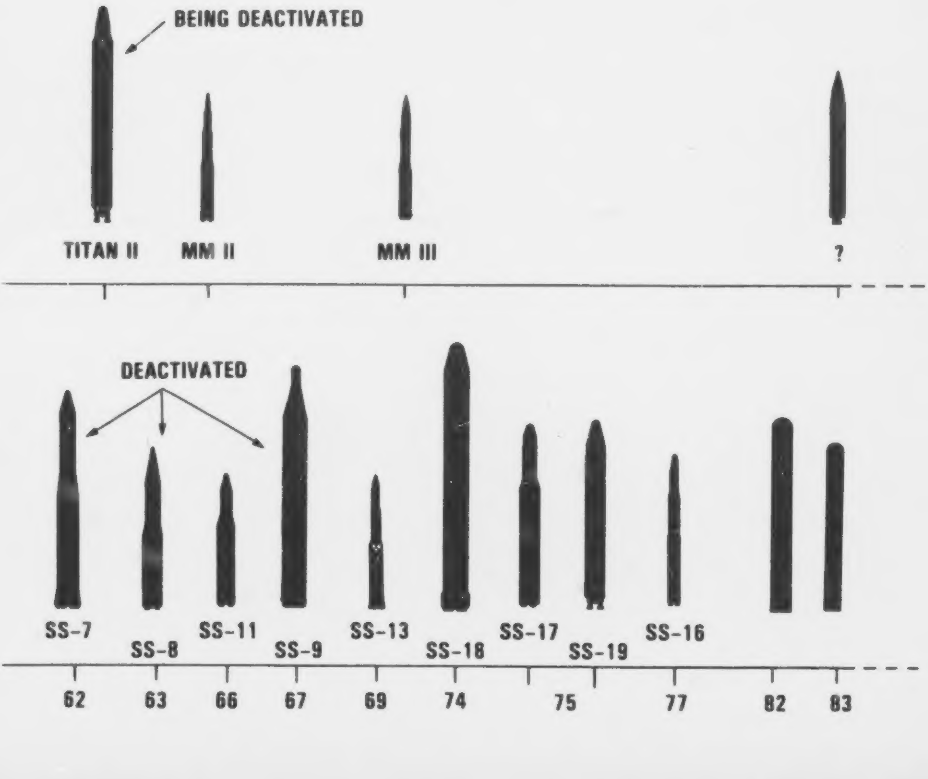
AGING FORCE
- TITAN II—1962
- MM II—1965
- MM III—1970

DECREASING COUNTERMILITARY CAPABILITY
- SOVIET SUPERHARDENING

INCREASING VULNERABILITY
- IMPROVING SOVIET ACCURACY

We have three problems right now as we look at the ICBM. One is age. The second is the force effectiveness. And, finally, survivability, that we have spoken to.

U.S. AND SOVIET ICBM DEVELOPMENT HISTORY



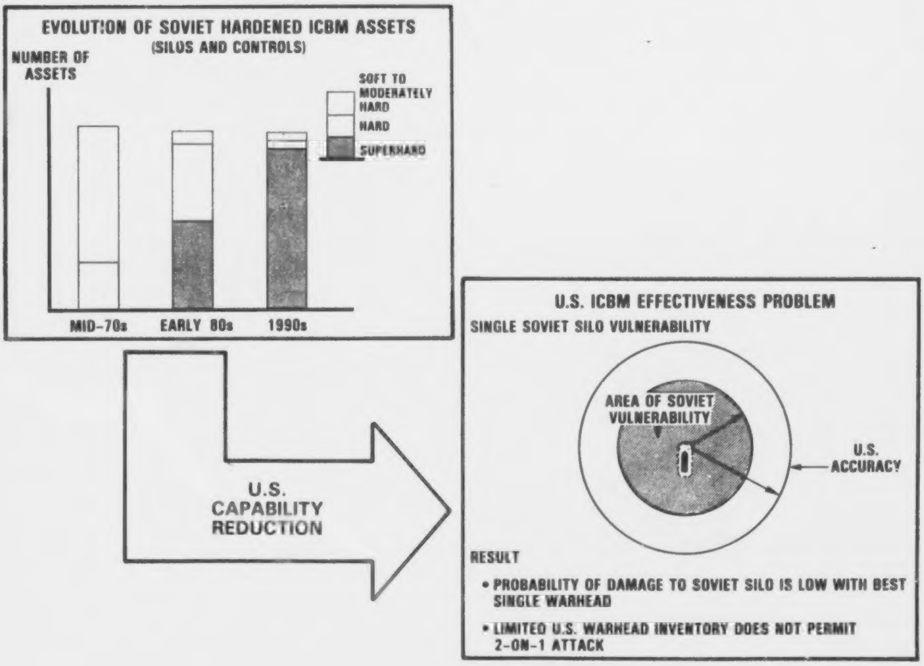
This slide illustrates the age. Back in about 1962 we started developing the 54 Titan II's. We are at this time deactivating them. I believe we have some 46 remaining. The Minuteman II's came out in the 1966 timeframe. It is a single RV missile. We have 450 of them on alert. Our most recent missile, the Minuteman II, we have 550 of them. They are the technology of the sixties. Their IOC was just about 1970. They have three re-entry vehicles. We have hoped for Peacekeeper, and we hope also to maintain an IOC in 1986 with 10 re-entry vehicles.

When we look at the Soviet array, the point is not that the Soviets have any special genius in missilry. The fact is that they continued their effort consistently through the sixties and seventies and on into the eighties, and in fact have a very impressive capability today.

The two missiles that I would emphasize are the SS–18 and the SS–19. These missiles are in hardened silos. They have many re-entry vehicles, and they represent the main problem to our force today.

The other point is that for the SS–18's and SS–19's, they have bought over 300 of each of them, and have a sufficient force structure to threaten us.

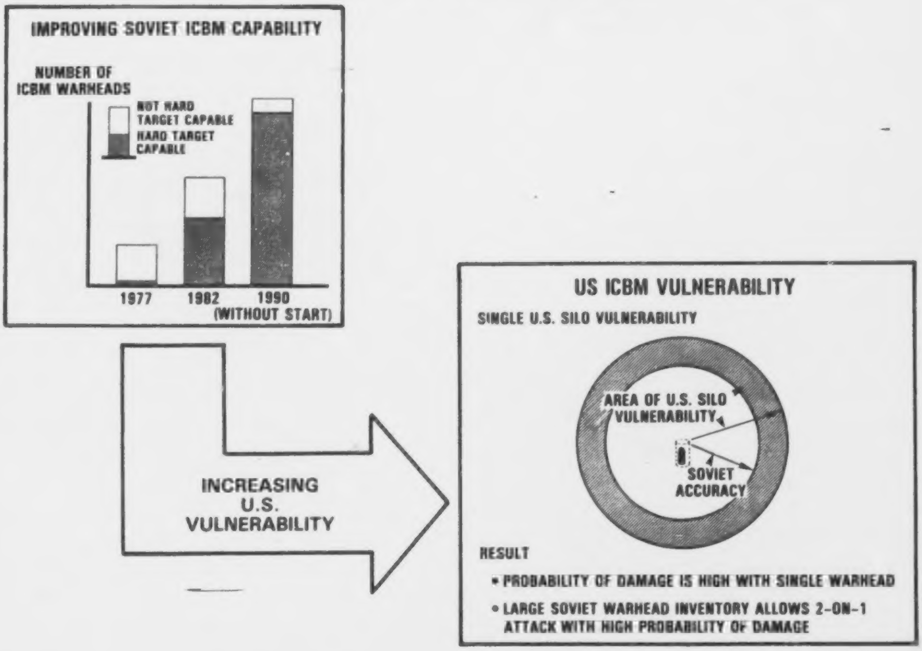
DECREASING COUNTERMILITARY CAPABILITY


EVOLUTION OF SOVIET HARDENED ICBM ASSETS
(SILOS AND CONTROLS)
NUMBER OF ASSETS
SOFT TO MODERATELY HARD
HARD
SUPERHARD
MID-70s
EARLY 80s
1990s
U.S. CAPABILITY REDUCTION
U.S. ICBM EFFECTIVENESS PROBLEM
SINGLE SOVIET SILO VULNERABILITY
AREA OF SOVIET VULNERABILITY
U.S. ACCURACY
RESULT
• PROBABILITY OF DAMAGE TO SOVIET SILO IS LOW WITH BEST SINGLE WARHEAD
• LIMITED U.S. WARHEAD INVENTORY DOES NOT PERMIT 2-ON-1 ATTACK

The second problem that I mentioned we have has to do with the accuracy of even our very best missile, Minuteman III. As you can see, back in the midseventies, the Soviets had not hardened very many of their silos. Here in the early eighties about half of them were superhard. These were predominantly SS–18's and SS–19's. And finally, by the 1990's, almost all of the silos are superhardened.

The result of all of this is that when you take on the silos with the Minuteman III, the blue circle indicates the U.S. accuracy. The internal red circle is where you would have to hit to do damage to the superhardened Soviet silo. As you can see, we are well outside of that red circle. The other way to handle that problem is to put more reentry vehicles on a target, and we simply do not have sufficient force structure to do that.

INCREASING VULNERABILITY

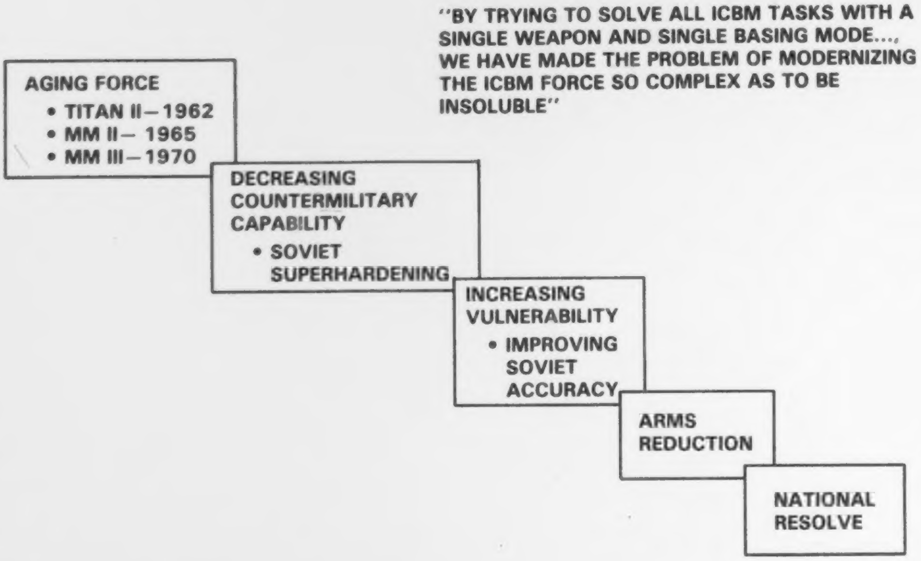

IMPROVING SOVIET ICBM CAPABILITY
NUMBER OF ICBM WARHEADS
NOT HARD TARGET CAPABLE
HARD TARGET CAPABLE
1977
1982
1990 (WITHOUT START)
INCREASING U.S. VULNERABILITY
US ICBM VULNERABILITY
SINGLE U.S. SILO VULNERABILITY
AREA OF U.S. SILO VULNERABILITY
SOVIET ACCURACY
RESULT
• PROBABILITY OF DAMAGE IS HIGH WITH SINGLE WARHEAD
• LARGE SOVIET WARHEAD INVENTORY ALLOWS 2-ON-1 ATTACK WITH HIGH PROBABILITY OF DAMAGE

The third problem that we have is increasing the vulnerability of our own silos. As you can see, back in 1977, very few of the Soviet missiles had hard target capability. Now we have well over half of them, and finally, by 1990, just about all of them with the present hardness of U.S. silos, that is, the outer ring. The Soviet accuracy of their new missiles, SS–18's and SS–19's, puts them well within what is necessary to take out our silos.

So, the point is that back in about 1977 we did have an adequate force structure. We were able to take on the Soviet Union. However, in about 5 years we have lost that advantage. In fact, the SS–18's and SS–19's today, their hardened bunkers are in virtual sanctuary. We must step up to the problem. That is exactly what the President's Commission did. And General Fornell will report the results of that.

General FORNELL. Thank you, Mr. Chairman.

PRESIDENT'S COMMISSION ON STRATEGIC FORCES



"BY TRYING TO SOLVE ALL ICBM TASKS WITH A SINGLE WEAPON AND SINGLE BASING MODE..., WE HAVE MADE THE PROBLEM OF MODERNIZING THE ICBM FORCE SO COMPLEX AS TO BE INSOLUBLE"

AGING FORCE
- TITAN II—1962
- MM II— 1965
- MM III—1970

DECREASING COUNTERMILITARY CAPABILITY
- SOVIET SUPERHARDENING

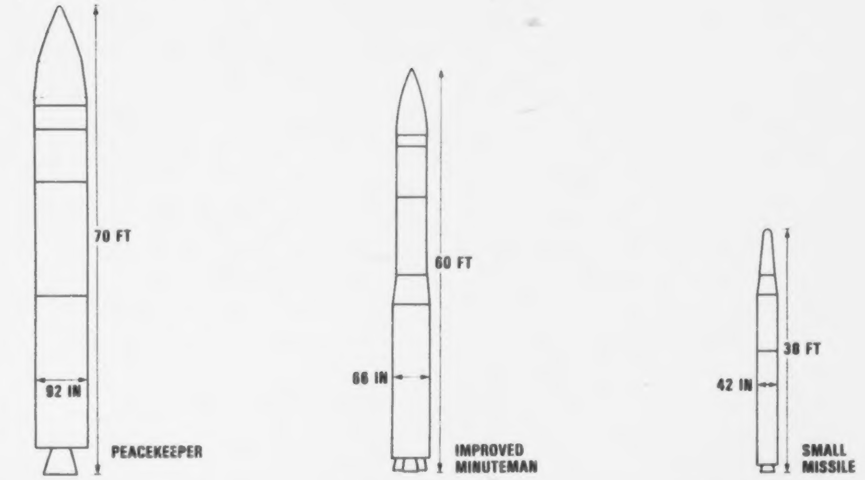
INCREASING VULNERABILITY
- IMPROVING SOVIET ACCURACY

ARMS REDUCTION

NATIONAL RESOLVE

Continuing on with the addressing of the President's Commission, as you know, the Commission unanimously agreed on the recommendations that they introduced and recommended to the President. The Secretary of Defense, OSD, and the Air Force are now on board and supporting that same decision, and now, in the face of implementing that decision as the Congress considers this before them now, but as complementary to General Shaud's remarks, we addressed in the President's Commission, the aging force, the Titans and Minuteman missiles, as General Shaud described, our decreasing countermilitary capability, which was accomplished by the Soviets in their hardness, superhardening techniques used in their strategic forces, communications, command and control facilities, and their political leadership facilities, our increasing vulnerability due to the improvements that the Soviets have made both in accuracy and weapons effectiveness, and, of course, the results in trying to embrace the entire solution in an overall arms reduction goal for the future, demonstrating national resolve, in that we can stand up in the full face of our NATO allies, our friends around the world, and have resolved to modernize the ICBM leg of the triad.

ICBM ALTERNATIVES



WT: 195,000 LB
GUIDANCE: AIRS
RVs: 10 MK-21s
IOC: 1986
STATUS: READY FOR FLIGHT TESTING

WT: 78,000 LB
GUIDANCE: AIRS
RVs: 3 MK-12As
IOC: 1988
STATUS: IMPROVEMENTS UNDER STUDY

WT: 25,000-35,000 LB
GUIDANCE: AIRS OR STELLAR-INERTIAL
RVs: 1 MK-21
IOC: 1992
STATUS: TECHNOLOGY VALIDATION

The Commission primarily examined three missile alternatives. The missiles described, from left to right, are the Peacekeeper MX missile, which is a 195,000-pound missile containing the advanced inertial reference system for its extremely accurate guidance set. It contains 10 advanced ballistic re-entry vehicles designated the MK 21. We are still confident we can attain by late 1986 initial operating capability, and actually, we are, pending congressional approval of this proposal, are ready to begin flight testing at Vandenberg Air Force Base in California.

The second alternative examined by the Commission was an improved or enhanced Minuteman 3, which primarily is the same Minuteman III we have 550 of at this time, but with an improved guidance set which is an adaptation of AIRS system that is on board the MX missile. It contains, as you know, three Mark 12A's or Mark 12's. It would take an additional length of time to incorporate those improvements in that those particular enhancements are not even to the drawing board at this moment, and that AIRS guidance system must be specially adapted, designed, tested, and then deployed on the enhanced or improved Minuteman missile.

We therefore think we can make an initial operating capability of 1988 with that particular model. The other missile, of course, examined by the Commission was the small missile, thought to be in the 25,000 to 35,000-pound class, a single MK 21 re-entry vehicle as a warhead, using either a Stellar-Inertial type guidance system, as on the D–5 or a similar system to the AIRS system that we have on the MX. We believe an initial operating capability in the early nineties, and that ranges, depending on the task at hand as far as the deployment scheme of the early nineties, that ranges from probably 1991 to 1993.

We are in the technology validation or the paper concept mode right now, and with the 1984 budget, that would be a kickoff in the technology development area.

Senator EXON. General, would you put that slide back up just a minute, please? I want to make sure I understand it. You were talking about IOC's on these different systems that the Commission considered. IOC on the MX is now what date?

General FORNELL. Sir, we believe we can make a late December, 1986, date, given a fairly reasonable go-ahead this summer, say, in June, pending the passage of this particular basing mode, sir.

Senator EXON. And if we did proceed with as an alternative the upgrading of the Minuteman III's, the IOC would be, you say, when?

General FORNELL. 1988, sir.

Senator EXON. And 1991 to 1993 on the Midgetman?

General FORNELL. On the Midgetman, sir.

Senator EXON. Thank you.

General FORNELL. Also contained in the report are the basing alternatives that were examined by the Commission.

BASING ALTERNATIVES

New superhard silos: Close spacing; close spacing with concealment; wide spacing; and south side of mesas.

Existing silos.

Deep basing.

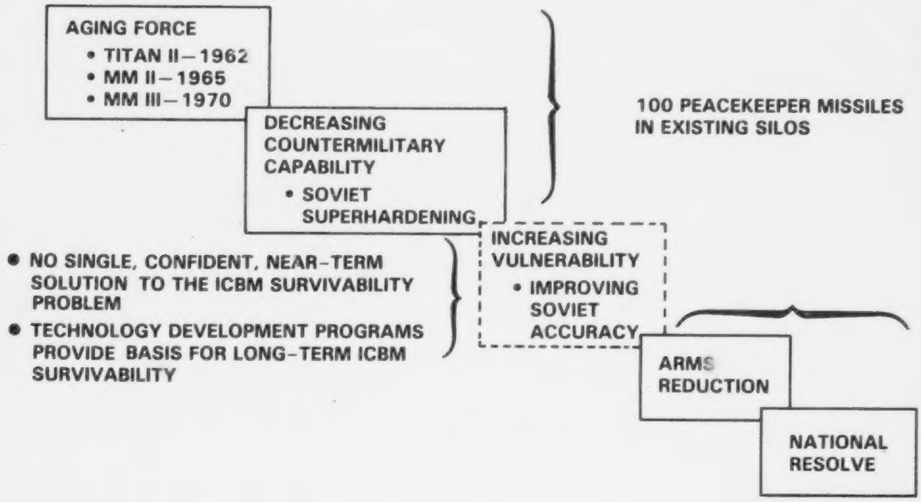
Multiple protective shelters.

Road mobile: Soft transporter and hard transporter.

They examined, of course, in a superhard sense, and that was a derivative of our closely spaced basing proposal. Close spacing of the superhards, close spacing with concealment, which is a ratio of more silo holes, if you will, to the number of missiles we have, and then moving those about at regular intervals, wide spacing, as we have in the current Minuteman field, and a variation of that called south side of mesas, which takes advantage of the geology or the mountainous terrain in preventing a missile from attacking from the north into a silo mounted against the face of the mesa.

The other alternative was existing silos which was chosen by the Commission, deep basing, which we have had a continual program in research and development examining primarily the egress problems associated with bringing a missile to the surface and ready for launch. Multiple protective shelters were also examined, which was the previous President Carter proposal of 200 missiles in 4,600 shelters located in the western basin in Nevada and Utah.

And then, lastly, two concepts in the road mobile area, one a soft transporter type vehicle, and lastly, a hardened transporter, thought to be in the 30 psi hardness area, which then does not have to generate near the square miles of land in attaining the survivability levels that are necessary.



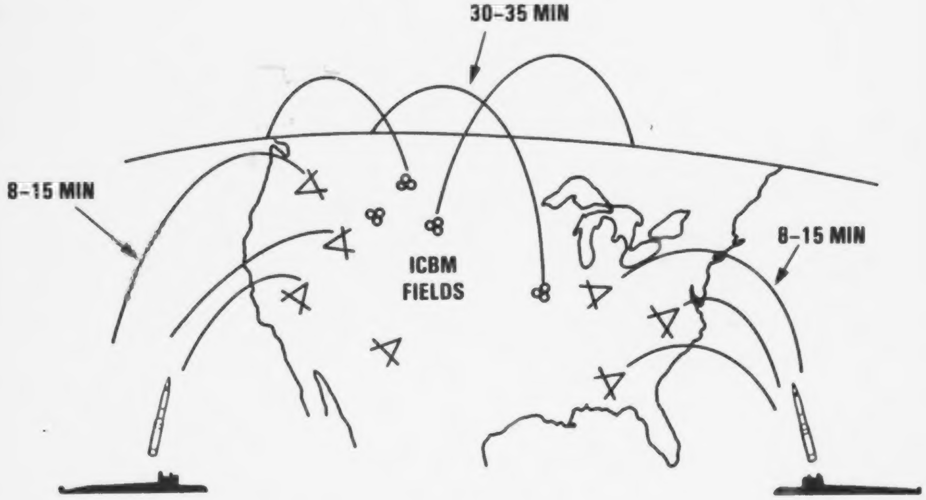
RECOMMENDED SOLUTION

AGING FORCE
• TITAN II–1962
• MM II–1965
• MM III–1970
DECREASING COUNTERMILITARY CAPABILITY
• SOVIET SUPERHARDENING
100 PEACEKEEPER MISSILES IN EXISTING SILOS
INCREASING VULNERABILITY
• IMPROVING SOVIET ACCURACY
• NO SINGLE, CONFIDENT, NEAR-TERM SOLUTION TO THE ICBM SURVIVABILITY PROBLEM
• TECHNOLOGY DEVELOPMENT PROGRAMS PROVIDE BASIS FOR LONG-TERM ICBM SURVIVABILITY
ARMS REDUCTION
NATIONAL RESOLVE

Therefore, in their recommendations, they addressed the near term with placing 100 Peacekeeper missiles in existing silos to address the aging force in the Titan and Minuteman forces, and addressing the prompt hard target kill capability of the Peacekeeper by improving our countermilitary capability against the Soviet superhardened targets. Then, in a second step or Phase 2, addressing the vulnerability and the improving Soviet technology and accuracy through a technology development program which includes the small single RV missile potentially mobile or based in a superhardened silo mode, continuing the research and development on deep basing.

Heavily involved in the report is the addressing of the arms control problem, and dealing with that, and shifting our emphasis to warheads and throw weight count rather than the current launcher count that is used in our current treaty understandings, and most importantly, of course, demonstrating to the Soviets and to our allies the national resolve to base now a highly effective Peacekeeper missile system in the continental United States.

TRIAD INTERACTION ENHANCES SURVIVABILITY



SOVIET DILEMMA

- SOVIET ICBMs LAUNCH FIRST→ENHANCES U.S. BOMBER ESCAPE
- SOVIET SLBMs LAUNCH FIRST→ENHANCES U.S. ICBM RETALIATION

I believe General Davis adequately covered this slide, but it mainly shows the differences in timing associated with a potential Soviet attack, mainly in that you base your attack scenario on a simultaneous launch or a simultaneous arrival of the Soviet warheads on either the bomber or a missile field, but this clearly shows that should the Soviet launch their ICBM force first, it enhances our U.S. bomber escape time, in that with adequate warning there is about 30 minutes or so time there which enables our bomber force to completely escape.

If the Soviet SLBM's are launched first, there is an obvious clear demonstration of nuclear detonations occurring on U.S. soil, and it enhances our U.S. ICBM retaliation capability.

In the solution——

Senator EXON. Let me ask a question right here. I noticed that you have here the launch times on the Soviet submarine of 8 to 15 minutes. That gives you a range, and then at the top it says, 30 to 35 minutes. Does that mean the incoming ICBM's launched from ICBM's in the Soviet Union?

General FORNELL. The ICBM's are at the top, sir.

Senator EXON. I guess I had never seen that in print before. That information must have been declassified.

General FORNELL. Yes, sir, and it is very well described in the Commission report, that particular scenario, as the problems and the timing associated.

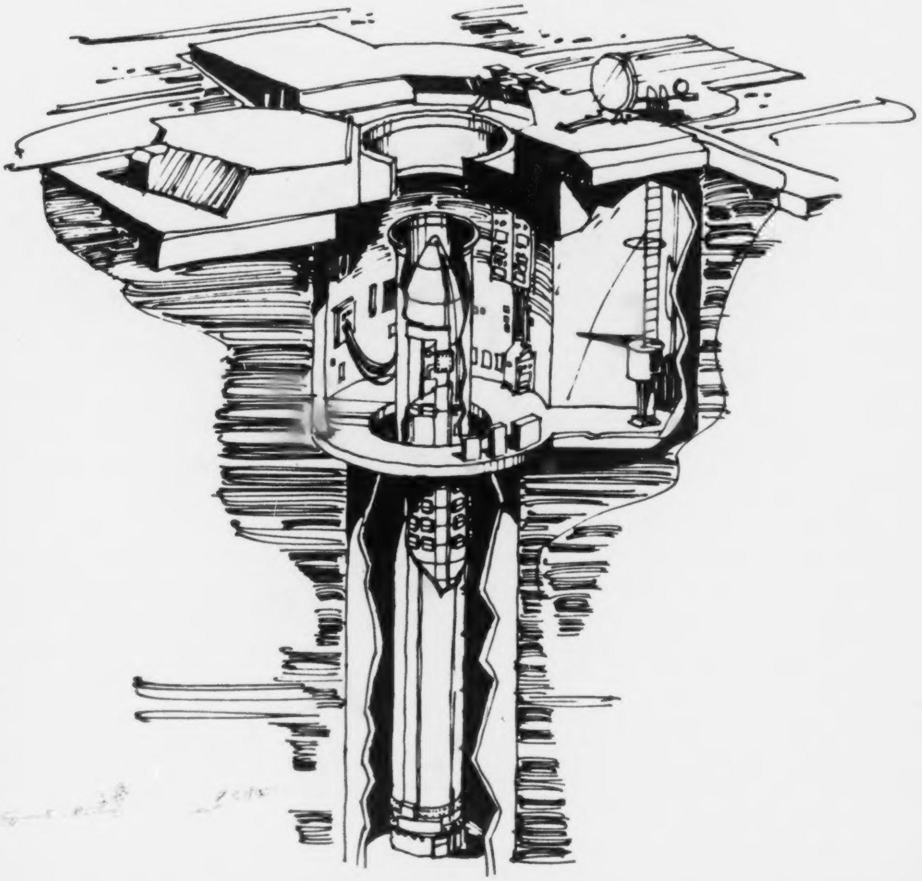
Senator EXON. Was that declassified previous to the Commission report?

General Fornell. Yes, sir, it was.

Senator Exon. Thank you.

General Fornell. With respect to the solution of putting Peacekeeper missiles in the Minuteman silos, I would like to give you an indication of those kinds of modifications that are necessary to be performed. There is a misconception that there was elaborate construction work to be done, but clearly the Peacekeeper missile or the MX missile has been designed to be completely enclosed in the Minuteman silo without, and I repeat, without extensive modifications to the silo.

PEACEKEEPER BASING IN EXISTING SILOS

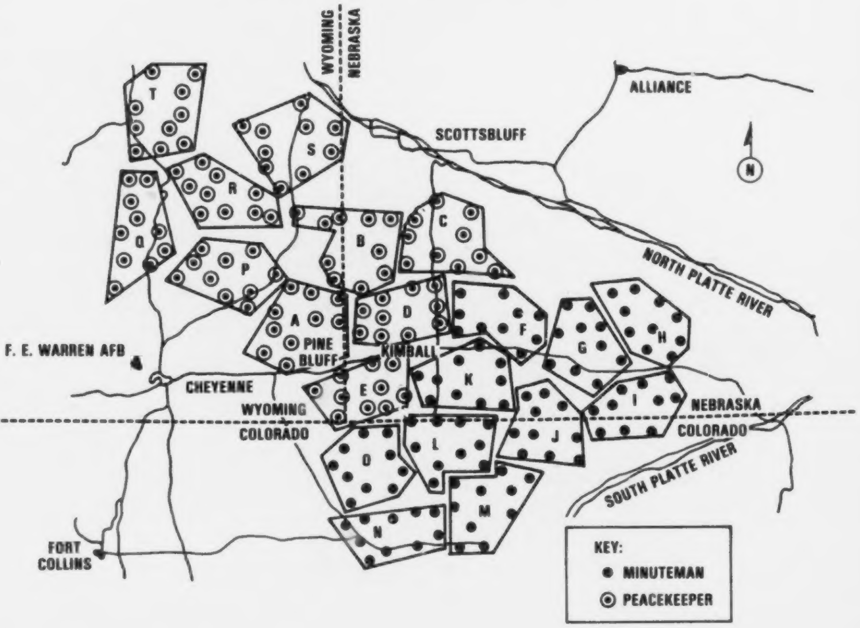


The Peacekeeper missile is enclosed in its own hardened cannister device, and it is a cold launch, so the primary modifications are in the shock isolation and shock mounting system of the missile within the silo. The missile itself requires some electrical and environmental interface work to be completed, and we plan on doing a couple of minor communications command and control upgrades to the total Peacekeeper system.

So, it is a minimum modification program. It would merely be a requirement to take out the Minuteman III missile, adapt the silo with the command control communications upgrades, the shock isolation and shock mounting system, and then placing the Peacekeeper missile in its cannister into the silo itself.

The missile will be constructed at the site itself, so the whole missile will not be transported in a very heavy weight across the highways leading to those particular sites.

PEACEKEEPER IN EXISTING SILOS:
F. E. WARREN DEPLOYMENT—100

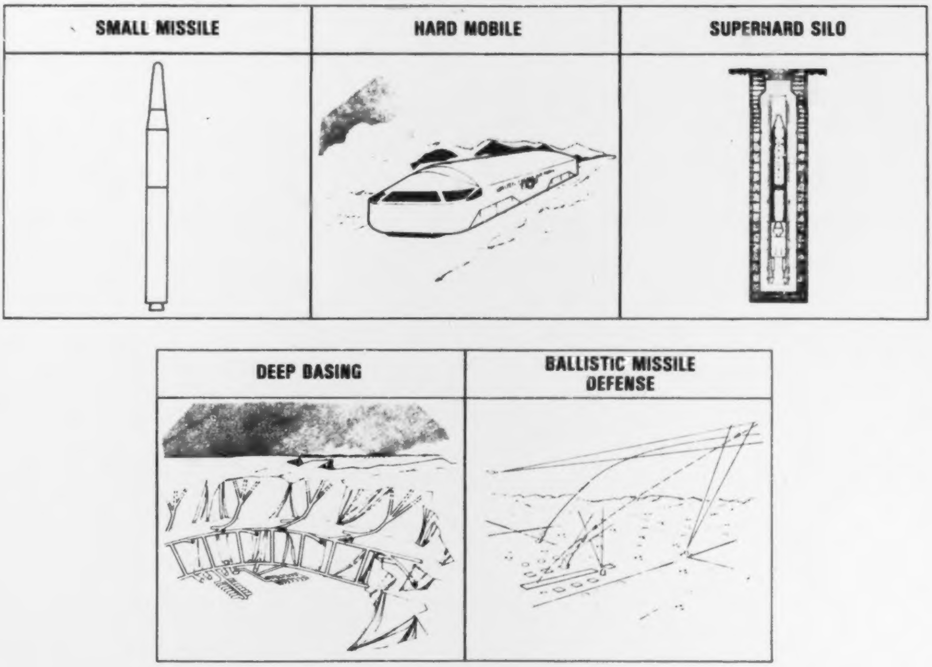

WYOMING
NEBRASKA
ALLIANCE
SCOTTSBLUFF
N
NORTH PLATTE RIVER
T
S
R
Q
P
B
C
A
PINE BLUFF
D
KIMBALL
F
G
H
F. E. WARREN AFB
CHEYENNE
E
K
I
WYOMING
COLORADO
NEBRASKA
COLORADO
J
L
O
SOUTH PLATTE RIVER
M
N
FORT COLLINS
KEY:
● MINUTEMAN
◎ PEACEKEEPER

Our siting has been done in a preliminary way, and looking at 100 sites in the Wyoming and Nebraska area. Currently, we have tried to base the Peacekeeper missile as close to Francis E. Warren, the primary support base, as possible. That minimizes the support problems as far as the maintenance to those sites, but improves the integrity of the flights and squadrons in that area in the closest siting to Francis E. Warren. There are 69 sites in Wyoming available to put the Peacekeeper missile into, and there are 31 sites within Nebraska as shown on this chart with the double circles.

Currently there are 200 Minuteman III missiles at Wing 5 at Francis E. Warren, as shown in the three States of Wyoming, Nebraska, and Colorado.

The technology program is shown then on this chart in graphics, a small missile development, probably three contractors competing in that particular development effort, hard mobile work to examine the hardness attainable in a vehicle to be able to generate square miles of land to provide the survivability required to prevent a barrage attack that would be successful, continuing our work in the superhard silo activity begun by the Defense Nuclear Agency, and examining the superhardened techniques based on Soviet technology and also continu-

TECHNOLOGY PROGRAMS FOR LONG-TERM SURVIVABILITY



ing at a lower level our deep-basing work we have begun and will continue, which is underground, the large cavernous areas thought to be in an enduring and surviving mode, long-term missile survivability, and then, of course, from an Army viewpoint, continuing its technology work in research and development for ballistic missile defense in attempting to keep up with the technology and then using ballistic missile defense as necessary to enhance our eventual basing mode.

Finally, sir, in specifics as to the 1983 program, the continuing resolution authority, of course, the clock has begun on the 45 days for examining this issue. The 1983 program, we do plan on beginning full-scale development of the Peacekeeper missile in existing silos at approval time of the Congress. The Peacekeeper will be ready for flight test at about the same time that Congress approves this mode of operation. We plan on beginning an environmental impact statement also based on a positive vote from the Congress. We will then kickoff our—or continue to the superhard work we have under way now as well as the deep-basing work in 1983.

We do have adequate funds within the program, but in order to meet the IOC late 1986, we will require to change the color from research and development money to production money in a long-lead sense to procure some of the longest necessary items in guidance and control in particular to protect the 1986 IOC for this solution.

Looking ahead to 1984 and what is over here for the 1984 authorization, we would begin the missile and basing production, initiate all the technology programs that were proposed by the Commission, initiate our support facility construction, and that is primarily the maintenance activities at Hill Air Force Base and Newark Air Force Sta-

U.S. ICBM MODERNIZATION PROGRAM

FY 83 PROGRAM

- FULL-SCALE DEVELOPMENT OF PEACEKEEPER IN EXISTING SILOS (1 JULY 83)
- FIRST PEACEKEEPER FLIGHT TEST (JULY 83)
- START ENVIRONMENTAL IMPACT STATEMENT
- CONTINUE SUPERHARD SILO AND DEEP BASING TECHNOLOGY PROGRAMS
- FUNDS—RESEARCH AND DEVELOPMENT 2.506
  (TY $B) MILITARY CONSTRUCTION 0.017

FY 84 PROGRAM

- START MISSILE AND BASING PRODUCTION
- INITIATE SMALL MISSILE AND HARD MOBILE TECHNOLOGY PROGRAM
- INITIATE SUPPORT FACILITY CONSTRUCTION
- COMPLETE ENVIRONMENTAL IMPACT STATEMENT
- FY 84 FUNDS RESEARCH AND DEVELOPMENT 2.572
  (TY $B) PRODUCTION 2.558
  MILITARY CONSTRUCTION 0.116

tion in Dayton, Ohio, with some training facilities at Chanute Air Force Base in Illinois and Lowry Air Force Base in Colorado, flight test facilities at Vandenberg Air Force Base in California, and some critical support facilities at Francis E. Warren Air Force Base in Wyoming.

We would complete our environmental impact statements and, as shown, research and development funds for 1984 are about $1.4 billion less than our 1984 request came over with the President's budget.

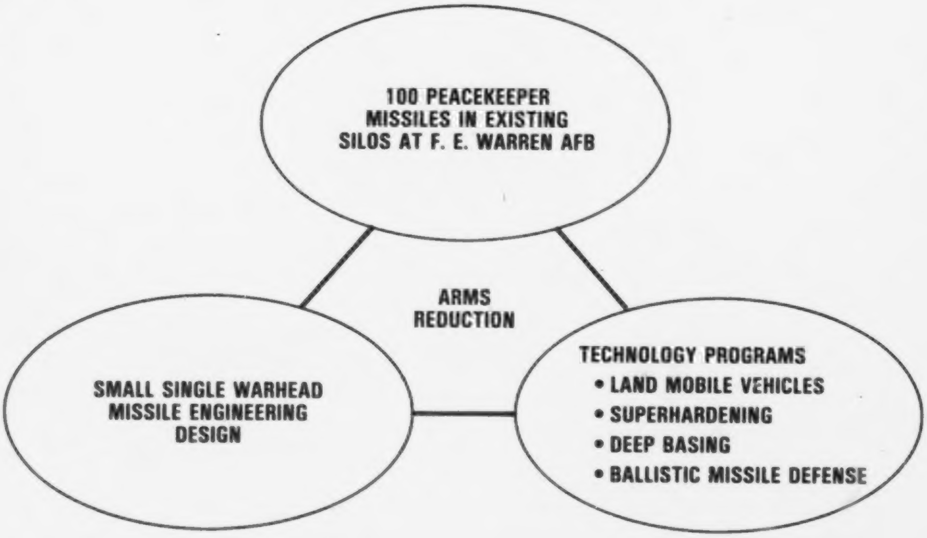
Finally, sir, then, in graphic portrayal, the Commission's solution in near-term deployment was to deploy 100 Peacekeeper missiles in the existing silos. Then, through a technology-development program which embraced those aspects of superhard silos, small missiles, hard road, deep basing, and continuing the ballistic missile defense allows us to develop a concept of validation work and test activity to give us confidence to base a decision on a follow-on deployment of small missiles, in either a mobile mode or a hardened silo basing mode or deep basing. You could continue with the Peacekeepers either in the superhard or the deep-basing mode, and then protecting the option for ballistic missile defense in the outyears should that technology prove to be a useful ingredient of the eventual solution.

That completes the briefing we had planned to give you this morning. We would be happy to answer any questions that the briefing may have brought forward.

Senator Exon. General, thank you very much.

Let me ask two or three questions that any of you can respond to. General Fornell, or General Davis, or General Shaud, whoever you think is most appropriate.

ICBM MODERNIZATION PROGRAM


100 PEACEKEEPER MISSILES IN EXISTING SILOS AT F. E. WARREN AFB
ARMS REDUCTION
SMALL SINGLE WARHEAD MISSILE ENGINEERING DESIGN
TECHNOLOGY PROGRAMS
• LAND MOBILE VEHICLES
• SUPERHARDENING
• DEEP BASING
• BALLISTIC MISSILE DEFENSE

In listening to your briefing, I got the impression, and we tied down the dates when you thought the IOC would be on the ballistic missiles, the improvement of the Minuteman missiles had an IOC of 1988, and yet I believe that essentially we would use the same guidance system if we went that route as an option that we would have on the MX. Is that right?

General FORNELL. Sir, it is the same type of guidance. However, the AIRS guidance is specifically designed for the MX missile now, and it would be needed to be redesigned and repackaged for application to the Minuteman missile itself.

Senator EXON. So we would use the same technology, but there would be some differences?

General FORNELL. The same basic technology, sir.

Senator EXON. And that is the main factor that would require the delay of 2 years over the IOC on the MX?

General FORNELL. That is correct.

Senator EXON. Now, let us get into this matter of where you are going to place these. As I understand it, you are proposing to put all of the 100 MX's in Minuteman III silos. Is that correct?

General FORNELL. That is correct, sir. At the Wing 5, Francis E. Warren site.

Senator EXON. What is the difference between the silos that house the Minuteman II and the silos that house the Minuteman III's that you are proposing?

General FORNELL. Primarily the depth of the silo is not adequate in the Minuteman II silo to accommodate the Peacekeeper missile. We do have other Minuteman III sites at Grand Forks and at Malstrom. At Grand Forks, we do have our best Mark 12A warheads on those particular missiles. There are only 50 sites at Malstrom Air Force

Base in Montana. So, to base 100 missiles, we would have to duplicate our facilities and support and buildings and the whole operational and support facilities required to support a deployment of 100 missiles, and in particular the geology which was a key ingredient in the hardness that we have been able to attain with the Minuteman silos is best at the Francis E. Warren site.

Senator Exon. Now, then, what you are saying, General Fornell, is that the MX would not work in Minuteman II silos?

General Fornell. It could be made to work, sir. It would require considerably more and extensive modifications to the silos and the Minuteman II sites. Also, the geology at those particular sites is not as optimum as it is at Francis E. Warren, in that they are in wet, clay soil, and we would not attain the same level of hardness that we do in the Francis E. Warren site.

Senator Exon. I am looking at this chart, General. Are you telling me that there is a difference in geology in this area?

General Fornell. No, sir. The Francis E. Warren generally has the same geology throughout the wing. The siting there that you see is chosen primarily from operational considerations and logistic support considerations in basing that the large missile with its cannister and new devices closer to the support facilities that will be available at Francis E. Warren.

Senator Exon. Is there a significant difference then between—well, how much difference? You said the prime difference between the Minuteman III and II silos was the depth of the silo. Is that correct?

General Fornell. Yes, sir.

Senator Exon. In feet, how much different?

General Fornell. It is about 10 feet difference, I understand, and of course we have to accommodate the suspension system of the Peacekeeper missile as well, that is, with its cannister and cold-launch capability of the cannister.

Senator Exon. Well, is it fair to say, then, that the Minuteman III silos were—that when the MX was first programed, it was intended to go as a replacement possibly for the Minuteman III's and their silos and not the Minuteman II's.

General Fornell. I cannot be absolutely sure of that, since I was not involved with the program, but my best recollection of reviewing the data was that option was always preserved in the initial design of the MX Peacekeeper missile in attempting to stay within the geometry or size limitations that we had in the Minuteman silo, remembering that the MX is enclosed also in a separate cannister, and inserted in the hole, and therefore would use up a lot of the rattle space that we have with the Minuteman missile in those silos versus the cannisterized MX missile system.

General Shaud. It is true, sir, that those two represent the newest silos.

Senator Exon. The Minuteman III's are the newest silos?

General Shaud. Yes, and the deep holes are the newest silos.

Senator Exon. What you are saying then is that we could deploy the MX in either the II's or the III's, but the III's are more compatible. Is that the way we should state it?

General Fornell. Yes, sir. That is exactly correct.

Senator Exon. Now, let us follow up on that just a little bit more. When you are deciding where these should go, you must have—I want to try and delve into the strategy of taking out a missile with three warheads and leaving in place the Minuteman II's with a single warhead. From the standpoint of overall response, hard-target kill, would it not make more sense from a national security standpoint to take out a missile with one warhead on it rather than that with three?

General Fornell. Sir, probably General Davis—there are certain options the targeteer needs to protect.

General Davis. While MIRV'd and more accurate systems are, of course, a prime concern and a very high priority, the highest priority, indeed, when one lays down the SIOP or the war plan, one needs some flexibility. You have to be concerned about footprinting MIRV'd vehicles, getting them in the right place, and it is very important that we have it. It is equally important to have some single warhead reentry vehicles to give you some essential flexibility in your various nuclear options.

So, from an operational point of view, it is useful to have single RV weapons also, and of course from an arms control point of view, phase 2 of this Commission report, of course, is an effort to see if the Soviets will not de-MIRV. It also gives you more flexibility, or gives you flexibility and utility for your targeteers from an operational point of view.

Senator Exon. What you are saying, General, then, is that if we had 100—and you said earlier that we do have some reserve supply of Minuteman missiles. Are those Minuteman III's?

General Davis. Minuteman III's, and we are very short on Minuteman II's, less than 50.

Senator Exon. So from a standpoint of strategy, it would not be wise to take out 100 Minuteman II's and replace them with the Minuteman III? You would not do that? That would not be a wise option?

General Davis. It is a better option for several different reasons which have been pointed out, silo depth, adaptability for MX on the one hand, better geology. Two, to leave you some flexibility with the single RV.

Senator Exon. But my question—forget the MX for a moment. My question was, it would seem to me that if we wanted to enhance our strength, we would pull out those Minuteman II's and replace them with the Minuteman III's that we have in inventory, but I took it that that would not—you would not think that would be wise?

General Davis. Well, no, I would, and in the earlier proposal, which the committee agreed to deploy 50 Minuteman III's in Minuteman II silos, I agreed with that, but we were running into a limit, the SALT II limits, with the deployment of the Trident submarine, and reached an agreement not to do that.

MX AS REPLACEMENT FOR MINUTEMAN

Senator Exon. Now, one more question that I would like to clear up if I can. We hear additional emphasis these days on the fact that the MX was designed as a replacement for the Minuteman. In fact, earlier today, I think you, General Davis, indicated we might even call it the Minuteman IV. Is that accurate?

General **Davis**. We might have, past tense. As I said, it was not by accident that it fits the Minuteman silo. It was in a normal progression of modernization. It was a modernized land-based ICBM, a follow-on to Minuteman III, and I believe the Commission is treating it as such, as a follow-on, a logical progression for modernization.

But I would not propose to name it Minuteman IV. It is just a shorthand way of saying it was a modernization step, as the B-52H followed the B-52G.

Senator **Exon**. Now, if we follow that theory out, though, is it not fair to say, General, and would you not agree with me, that during the 1970's it was suddenly decided that it was not worthwhile to build the MX missile as a Minuteman IV, in other words, just placing it in those old holes? Indeed, all during the 1970's, or at least the latter part of the 1970's, it became abundantly clear from testimony before this committee and public statements that primarily because of the acceleration and the accuracy of Soviet missiles that more or less startled us, I believe, in 1978 or 1979, is it not also fair to say that the concept of deploying the MX or Minuteman IV in Minuteman silos was largely discarded, and we began searching for other means, including MPS and mobile systems, and finally the dense pack basing mode?

So, in other words, when we use, and when we place emphasis today that the Minuteman IV or MX may have been thought to go into the Minuteman silos in the original instance, it is quite clear it did not, that the military leadership decided in the 1970's that that was not the way to go, and now they have gone back to what at least was an option when the MX was originally conceived?

General **Davis**. Yes, to almost 95 percent of what you said, yes. It was adapted to the threat and other basing modes, and the mobility aspect was certainly looked at to adapt to the threat. I would not say that sponsorship was 100 percent military.

Senator **Exon**. What sponsorship?

General **Davis**. The sponsorship of the other modes of basing was 100 percent military. It certainly was not.

Senator **Exon**. Well, do you mean it came from the political——

General **Davis**. Well, there was certainly a mixture of both, yes, and that is the only part I disagreed with. The history as you recite it is accurate.

Senator **Exon**. Gentlemen, I have no further questions. And we thank you for your thorough briefing. I am sorry, I did not see Senator Nunn.

Senator **Nunn**. Just a couple, Mr. Chairman. I know we have other witnesses, and I will not take but just a minute.

LAUNCH ON WARNING OR UNDER ATTACK

General Davis, you testified on February 23, 1982, that "We cannot afford to rely on a launch on warning or launch under attack as a solution to the ICBM vulnerability problem." Do you still have that view?

General **Davis**. My presumption, Senator Nunn, is that statement is accurate, and perhaps it was in a prepared statement. I do not recall. But certainly launch on warning could be very destabilizing.

Launch under attack, there are many interpretations of that, but one interpretation of that is, of course, nuclear weapons are going off in our country, and certainly a reason to retaliate, which is launch under attack.

So, I would say a prompt response to the threat without detailing what this Nation's mode of retaliation is certainly warranted without spelling out, and I do not think any purpose is served in spelling out exactly how it would be done.

Senator NUNN. Well, does that mean that you have modified your position and that launch under attack is now acceptable?

General DAVIS. Let me characterize it as a prompt response. Now, launch under attack, certainly it must mean you are being attacked.

Senator NUNN. Your definition of launch under attack is, as you have just defined it, is that we would have already sustained damage, that the bombs would have already gone off? Is that right?

General DAVIS. One or many, yes.

Senator NUNN. Is there any doubt that we are moving to a prompter response in terms of retaliation than we were, say, 3 or 4 years ago?

General DAVIS. No; I think we are properly concerned about survivable command control communications. In order to give us a prompt capability which we did not properly concentrate on in the past, it has been recognized. This committee has certainly or this subcommittee has certainly supported that, and with better and more survivable communications, you have a better capability for a prompt response, which means we may not have had it in the past.

Senator NUNN. Would you still prefer for us to be in a position where we could actually ride out an attack?

General DAVIS. I do not believe we should ever be in the position to ride out an attack.

Senator NUNN. You do not?

General DAVIS. I do not believe we should. I believe the destruction inherent in such a posture to absorb completely, with the great modernization of the strategic force, to absorb completely and then retaliate, I just do not think it is useful to air publicly exactly how we would retaliate.

Senator NUNN. Well, when I say be in a position to ride out an attack, I am not saying that that is necessarily what you would do, but I am saying, do you believe it is desirable to be in that position should the Commander in Chief decide to ride out an attack where you could ride out an attack without retaliation and still have your retaliatory force left?

General DAVIS. Well, Senator, we have not even provided a rudimentary civil defense program, for instance.

Senator NUNN. I am not advocating absorbing an attack. I would rather not have an attack. My question is, though, would you prefer to be in a position where if we decided to, we could ride out an attack rather than retaliating while under attack?

General DAVIS. All other things being equal, and prudency, certainly, but as a practical matter we have been unable to attain that.

Senator NUNN. You do think it is still desirable if it could be obtainable?

General DAVIS. Of course.

SUBMARINES NOT ON ALERT

Senator **Nunn**. One other question, General Davis. My understanding is that before I came in, you mentioned two-thirds of our submarines are not on alert, and would not survive. Now, maybe that is not an accurate quote. Is that accurate?

General **Davis**. No, well, may or may not survive, and I set up a very specific scenario. The alert case today, the numbers committed, about one-third, as one-third of our bombers and virtually 100 percent of our missiles. Now, that is a very specific scenario, and what is the likelihood of that scenario, a so-called bolt out of the blue? Not very likely. But in that given scenario, you lose about two-thirds of your bombers because they are not generated and not on alert, and you would lose about two-thirds of your submarines because they are not generated and not on alert.

Senator **Nunn**. Well, are not subs—I mean it is my understanding about 40 percent of the subs are in port at any one time, but included in that two-thirds figure that are not on alert would be subs going and coming from port. Now, they would not be vulnerable, would they?

General **Davis**. Well, in a bolt out of the blue, why not?

Senator **Nunn**. Well, they are under water.

General **Davis**. Are they proceeding to station under water?

Senator **Nunn**. Well, I ask you. You are the expert. But they are not in port. If they are under water, and they are going to and from, why would they be vulnerable?

General **Davis**. Well, because if they are indeed not vulnerable and not available to strike in this case, it will take them some time to get on station, but the whole discussion of numbers——

Senator **Nunn**. That is not the same thing as being vulnerable, is it?

General **Davis**. Well, it may or may not be, depending upon their sea state.

Senator **Nunn**. Well, if they are not in port, they are at sea, and if they are at sea, why would they be vulnerable?

General **Davis**. Or to or from sea, because perhaps they are not taking their actions to insure that they are invulnerable. They may or may not be doing that.

Senator **Nunn**. Well, that is a new definition I never have heard, that those going and coming from port were vulnerable. It is one thing to say they are not on alert, but it seems to me a totally different thing to say that they are vulnerable. I will have to just pursue that later. I know we are running out of time here.

Senator **Warner**. Thank you very much, gentlemen.

We are anxious now to proceed with the next panel. General Davis, we thank you and your colleagues for attending this morning's session. There are certain questions which we will provide for the record.

We will now have Dr. McGeorge Bundy, former National Security Adviser; Dr. William Perry, former Under Secretary of Defense; and Adm. Noel Gayler, former Director of the National Security Agency.

Gentlemen, we will now proceed with this distinguished panel, and on behalf of my colleagues on the subcommittee, the full committee, and, indeed, all members of the Senate ,we are grateful for your volunteering your time and your expertise to provide an incisive viewpoint with respect to the report of the Scowcroft Commission.

If I might inquire of each of you the time you will require for your direct presentation, it would be my intention to accord each of you the full opportunity to speak and then reserve questions after each has had an opportunity to provide his direct presentation.

Dr. Bundy, how much time do you need?

Dr. BUNDY. I have a prepared statement, but I do not propose to read it, Mr. Chairman, so I can get by with 5 minutes, I think.

Senator WARNER. And Dr. Perry?

Dr. PERRY. I think about 10 minutes, Senator.

Admiral GAYLER. Ten minutes, Senator.

Senator WARNER. Then if it is agreeable to the members of the subcommittee we will proceed to allow each of our witnesses to take as much time as they deem desirable to give a direct presentation and then we will open up for questions.

Dr. Bundy, you may proceed.

STATEMENT OF DR. McGEORGE BUNDY, FORMER NATIONAL SECURITY ADVISER

Dr. BUNDY. Mr. Chairman, I have a prepared statement, and I have already expressed myself in print on this subject, so let me merely underline three or four basic points. I think it really is a mistake to abandon the criterion of survivability in developing a major system, and I think there is no getting away from the fact that MX in Minuteman represents that kind of abandonment.

ATTENTION TO SURVIVABILITY

The process by which we developed attention to survivability in the 1950's is one of the more important historical events in the nuclear age, and the man who led us in this direction was, I think, one of the great statesmen of nuclear decisionmaking, namely, General Eisenhower. The reasons were the same as they are today: That nothing is more dangerous in a nuclear system than to present it as a target for surprise attack, and any system which can be removed in very large part by a first strike from others is that kind of a system.

The principal motivation, it seems to me, underlying the long effort to secure approval for deployment of MX is the very strong feeling that somehow it is deeply dangerous for us to let the Soviet Union have its obvious and undeniable advantages in ICBM's, but it would be even more dangerous if we were to duplicate their force precisely because if both countries now had the kind of ICBM capability the Soviet Union has each could much more plausibly consider the advantages of preemption in any time of great crisis.

It is a contribution not only to our safety but to the safety of the Soviet Union and the world that we were led by General Eisenhower in the direction of multiple survivable strategic forces, and to turn back from that now without very compelling reasons would seem to me a great mistake. I do not find those compelling reasons in the argumentation of the Scowcroft Commission or anywhere else in the discussion so far, and some of the arguments that are put forward strike me as just plain wrong.

I think that we do not need this additional strategic modernization to impress the Russians. They are at least as well aware as we are of the fact that extensive modernization and improvement and additional weaponry are being added in all of our other systems, at least three of four programs for the bomber alone and more than one at sea.

They are well aware of the fact, which is frequently neglected in our own debates, that the superiority we have in these two other areas is commanding. We keep talking about the missile competition as if it were only an ICBM competition, and it is not.

I think there is an error also in asserting that we need this to impress our allies. That is not the position they take, and dispatches from Europe make it clear that they are much more worried about American vehemence and American overattention to nuclear danger than the reverse. I think it is just wrong to say that we need the MX in Minuteman silos for the coherence of the alliance.

Finally with no derogation at all from my respect for Mr. Perry, who was a member of the Commission, I have to say that I do not think this Commission represents a full cross section of qualified opinion on the subject, and I do not think it is a secret that the Commission and its senior counselors were screened with the objective of getting people who would endorse the MX in some form.

That is, of course, what has happened. I hope very much that this committee will find ways and means of asking questions and soliciting opinion from a wider spectrum of those who have had serious experience with the problems.

[The prepared statement of Dr. McGeorge Bundy follows:]

PREPARED STATEMENT OF DR. MCGEORGE BUNDY

I am honored by your invitation to appear before your committee. I come to question the current proposal to deploy 100 MX missiles in Minuteman silos. Unless a far better case is made in these and other hearings, I believe that Congress should reject this recommendation and should instead insist on a much more searching and comprehensive analysis of what is now required for strategic stability and overall deterrence, both in modernization and in arms control policy. Because the Scowcroft Commission was created and selected by men whose overriding objective was simply to save the MX missile, its membership was not broad enough to encompass the full range of relevant judgments. My most urgent specific recommendation is that the Subcommittee should seek out the views of many other Americans whose assessments have equal claims to respect.

My general appraisal of the Commission report is contained in a short article initially prepared at the invitation of the New York Times, and I attach this paper. It notes a number of constructive contributions of the Commission's report, but it also raises a number of questions. In this statement I develop further a number of responses to the major arguments of the Commission.

First: I believe that the deployment of MX-in-Minuteman could open the way to a most dangerous competition in destabilizing, vulnerable, first-strike weapons. Over the last generation we have left it to the Russians to deploy such weapons, correctly preferring to build only survivable systems. But the only thing more dangerous than for one side to rely on vulnerable first-strike systems would be for both sides to do so. Aware of this danger, the Scowcroft Commission asserts that MX-in-Minuteman should "encourage" the Russians to move away from their big MIRVed ICBMs. But will it? Unless I am misinformed, the preponderance of opinion among close students of Soviet behavior is that the Soviet answer to MX-in-Minuteman will be the deployment of their own similar system, which is already being tested. The Commission strongly hints that we should then reply by enlarging our own deployment of MX. But if we should build two hundred MX-in-Minuteman with two thousand warheads, we would be creating a highly unstable situation of mutual first-strike vulnerability between ICBM forces on both sides. Even the deployment presently proposed would be highly uncomfortable in any grave crisis.

Let me make this point another way. If our country today had the very same strategic deployment that the Soviet Union has, relying primarily on vulnerable MIRVed ICBMs, the world would be an enormously more dangerous place than it is, because in that case each side might persuade itself, much more plausibly than either one can today, of the possible advantages of a pre-emptive attack. The last thing Americans should want is a major competition in this kind of threatening and vulnerable weaponry.

I recognize that the Commission itself is wary, in parts of its report, of building forces that could threaten the whole Soviet ICBM force, and I also recognize that Congress and the country are quite unlikely to support any second or third deployment of MX-in-Minuteman. But is not that simply another way of saying that the only good thing about the Commission's desire to convert the Russian by the threat of a continuing MX competition is that this threat will not be executed?

Second: MX-in-Minuteman will not contribute to the progress of strategic arms control unless there is a drastic modification of the Administration's approach to the START negotiations, a modification of which there is at present no sign. So far the Administration has rigorously insisted on unbalanced Soviet concessions which do not seem to be negotiable, and there is much language in the Commission's report that can be used to reinforce this stance. But the only possible use of MX-in-Minuteman as an element in arms control policy would be as a program to be traded out, together with the emerging Soviet MX, in some kind of no-new-MIRV agreement. I recognize that it will not be easy for Congress to encourage the Administration in this direction, but this possibility is the only one that I can see for using MX now to make a constructive contribution to national security.

Third: We do not need MX-in-Minuteman either to prove our mettle to the Russians or to fill in an asserted gap in our range of deterrent capabilities. The Commission makes two claims here. The first is that if we now cancel the MX the Russians will doubt our "national will and cohesion." But the Russians know as well as we do that we have half a dozen other programs of strategic modernization in hand, and they do not forget what Administration spokesmen constantly pass over—the commanding U.S. lead in strategic systems other than ICBMs. The Commission itself specifically recognizes the growing role of the submarine force, and it recommends no change in the probably redundant program of bomber modernization. We have so many good programs in hand that we have no need to impress the Russians with a bad one.

Nor is the Commission's more technical argument persuasive. It tells us, more by assertion than by careful argument, that MX-in-Minuteman is needed to repair an imbalance in prompt hard-target kill capability. But neither the Commission nor anyone else has explained why this need is now so overwhelming that we should deploy the admittedly vulnerable MX-in-Minuteman when we have four other serviceable hard-target killers on hand and on order—900 Mark 12A warheads already in Minuteman IIIs, thousands of missiles deployed or programmed for bombers, cruise missiles in attack submarines, and the D-5 missile that will be in Trident submarines. All these systems are more survivable, warhead for warhead, than MX-in-Minuteman. I have no doubt that strategic planners can produce "requirements" for MX too; experience shows that there is no limit to that process. But for deterrence, rather than for exotic and unreal scenarios, our strategic forces are more than ample today, and for deterrence the weapon that arrives in hours is just as impressive to political leaders as the one that arrives in minutes.

Fourth: We do not need MX-in-Minuteman to prove ourselves to our allies. The Commission asserts that we require this deployment "to assure our allies that we have the capability and will to stand with them." This assertion should be compared with the real opinion of the Europeans, and last week there were two important statements on the point. One came from an outstanding American observer, Flora Lewis, and the other from one of the most respected of British conservatives, Lord Carrington.

Ms. Lewis reported from Rome that in a meeting of the Trilateral Commission,

". . . West Germans were astonished to find an American politician wondering whether failure to deploy the MX missile would be taken as a sign of United States weakness, whether it would reinforce the arguments of West Germans opposed to Pershing 2's. Would they say that if Americans don't install bigger missiles why should they?

"The situation is just the opposite, the West Germans explained. 'What we're afraid of isn't American weakness,' was the politely truncated answer, leaving implicit that the real fear is of stumbling into war." (New York Times, April 22, 1983, p. 31.)

What Lord Carrington said is still more trenchant. His comments are not directed at the specific issue of MX, but who can doubt that he has some people in Washington in mind when he calls for more confidence in the powerful present deterrent strength of the West and tells us all not to be "hagridden by fear of military inferiority?" It is not Europeans, but overzealous Americans, who contend that MX is a poultice for the Alliance.

Fifth: The assertion that the Scowcroft Commission embodies a general bipartisan consensus of experts is quite unjustified. While no one should question the sincerity of the Commissioners and the "Senior Counselors" who have endorsed their work, it is no secret that both the Commission's members and its counselors were screened in advance with support for MX as a requirement. There are persons of at least equal experience and judgment who have other views on these matters, and I suggest that this Committee should ask for their comments on the issue, either by testimony or in writing.

It is not for me to say who should be consulted, but for illustrative purposes let me simply note a number of people who have expressed themselves on these problems over the last year or two and who have had responsible experience in the past. (In most cases I do not know their opinion of the current proposal to put MX in Minuteman silos.) Among former Secretaries of State I note Dean Rusk, Cyrus Vance, and Edmund Muskie; among former Secretaries of Defense, Robert McNamara, Clark Clifford, and Elliot Richardson; among former assistants to Presidents on these matters, Andrew Goodpaster; among former Directors of the CIA, William Colby and Stansfield Turner; among other military professionals Maxwell Taylor and Elmo Zumwalt; among former Arms Control negotiators, Averell Harriman, William Foster, Gerard Smith and Paul Warnke; among Science Advisors to Presidents, James Killian, Jerome Wiesner, and Frank Press.

Sixth: In the face of the obvious need for major reductions in the Administration's defense budget, MX-in-Minuteman becomes a strong candidate for elimination. Even though it makes no significant contribution to overall deterrence, it carries a price tag conservatively estimated at $15 billion over the next five years. Yet almost everyone except Secretary Weinberger now recognizes that reductions very much larger than $15 billion are now imperative. If our government does not make any hard choices among big-ticket items, it is predictable that what will get shortchanged is precisely what is most needed: things like spare parts, training, and general operational readiness—the very things that matter most in the real world.

The long and unhappy history of this ill-fated weapon system has lessons for us all, and some but not all are sketched in the Scowcroft Commission's report. It is indeed time to think again about the relation between arms control and stable deterrence. We should indeed concentrate our attention more on warheads and less on launchers. We also need to look further ahead than is our habit, not simply to our own favorite new weapons, but to the situation we will face as the Soviet Union makes its own new choices. Our mistakes with MX can help us do better, but only if we lift our eyes from the single, narrow, short-term objective of deployment of MX at any cost in any available place, and examine the future dangers of the nuclear weapons competition considered as a whole.

[From the New York Times, Apr. 17, 1983]

MX Paper: Appealing, but Mostly Appalling

(By McGeorge Bundy)

Last week the Scowcroft Commission published what is at once one of the best and worst state papers of the nuclear age. Unfortunately, it seems possible that the best parts will be less appealing to President Reagan than the worst. It is obvious from the elaborate White House orchestration that the report has been constructed with built-in Presidential approval and that at its core it is a selling job for the wrong missiles in the wrong place—100 MX missiles in Minuteman silos. This solution has been repeatedly reviewed and rejected both by Congress and by the executive branch over the last 10 years.

But let us begin with the good parts. First, the report deliberately and correctly destroys one of the principal myths on which Mr. Reagan campaigned in 1980—the myth of the "window of vulnerability," or the threat of a Soviet first strike on Minuteman silos. Growing Soviet missile forces with growing accuracy, it was said, would allow the Russians to knock out nearly all those silos early in the 1980's and the President would not dare respond because our cities would still be hostage. It was an unreal but chilling scenario, and until last week no one around Mr. Reagan had ever questioned it in public. Now the commission has given it a fitting burial. The commission observes that a "massive surprise attack" on our 1,000 Minuteman silos would be a very special case and concludes: "To deter such surprise attacks we can reasonably rely both on our other strategic forces and on the range of operational uncertainties that the Soviets would have to consider in planning such aggression." Thus, the window of vulnerability is slammed shut on the fearful fingers of the Committee on the Present Danger.

The commission puts one condition on this conclusion, and again it is a good one. The vulnerability of the Minuteman, considered alone, is real if uncertain, and it does raise a serious long-range question, because our bombers and submarines may not always be as survivable as they are now. If we can buy "long-term ICBM survivability" for a sensible price, we should indeed have it, and the most promising possibility is a smaller single-warhead missile, as thoughtful students have been saying for quite a while. The recommendation for careful research and development on such a new missile deserves full support.

A third good basic recommendation is allied to the first two: It is that we should seek to shift the counting rules of strategic-arms control from launchers toward warheads. This good idea is a belated but entirely sensible effort to deal with the destabilizing effects of MIRV's (multiple independently targetable reentry vehicles)—that is, many warheads on one missile. MIRV's are the United States' worst single contribution to the nuclear arms race. What they did, as many warned at the time, was to give the attack an advantage over the defense, because a multiple-warhead missile can "kill" several opposing missiles in one shot, while it takes at least two single-warhead missiles to "kill" even one similar weapon with assurance.

SALT, for reasons of verification and habit, counted mostly launchers, not warheads. This way of counting strengthened attachment to MIRV's on both sides, because if you can have only so many missiles under an agreement, why not pack them with as many warheads as you can? We were firstest with MIRV's, but the Russians have been mostest, and the commission is right: It is time to go to work to change the counting rules. The commission is also right when it notes that some of Mr. Reagan's proposals in the strategic arms talks in Geneva move in the wrong direction on this score.

So far so good. What is wrong? Only the centerpiece of the report. It goes in exactly the opposite direction by placing the first-strike multiple-warhead MX in Minuteman silos, right where Soviet MIRV's could knock it out if ever the Kremlin thought we were about to use it. Because the MX has 10 warheads, not the two that is the average in the Minuteman force, it will be five times as vulnerable, warhead for warhead, as Minuteman itself. It violates the fundamental rule first laid down in the Eisenhower Administration: The object of any new stratgic system is to deter, and to deter safely it must be able to survive.

If there was ever a "use it or lose it" system, ill-designed for stability in crisis, it is this one. Yet it comes to us from a commission that elsewhere tells us that "stability should be the primary objective." A system of this kind is open to only one protective device, a capacity for launch-on-warning—for rapid firing on possibly fallible electronic notice of an incoming attack. But on this critical point, the commission is alarmingly silent. It would have done better to recognize more candidly its deliberate abandonment of our most important single standard for strategic force planning.

The arguments offered directly for this strange choice are thin. We need it to induce Soviet acceptance of new arms control limits, says the commission. But as the commissioners recognize, the Russians are already testing their own MX and their own single-warhead missile. The Soviet answer to new programs will be new programs, not new concessions. If the commission wants a no-new-MIRV agreement, which would make good sense, it should propose just that. It should not pretend that the MX in Minuteman silos is arms control in disguise. Nor should it compare this problem with that of the antiballistic missile defense treaty. The Russians joined us in curbing ABM systems precisely to insure the deterrent effectiveness of their land-based missiles. They are not going to be driven to sea by MX. The whale will not convert the elephant by imitation.

Most of the commission's other direct arguments are thinner still. If we do not deploy MX, it says, the Russians will doubt our "national will and cohesion." Is honest disagreement on hard choices a sign of weakness? A commission of Americans should know better. But our existing land-based intercontinental missile force is aging, says the commission. So it is, but as the commissioners recognize in the very next sentence, the necessary programs for keeping this force effective are already in train. But, they argue, we need a hedge against possible Soviet antiballistic missiles. Is the commission suggesting that our existing 10,000 warheads could not be programed for this task? But, it says, we need a new booster as a backup for the space shuttle. Well, if we do, we do. But is this a serious argument for 1,000 new first-strike thermonuclear warheads?

The real purpose is different, but the commission wraps it in jargon. The main reason for this recommendation is that a commanding majority of its authors want these first-strike weapons because the Soviet Union has them. Never mind their contribution to instability in crisis; never mind what the Russians will build in reply; never mind what else you could do with $15 billion; never mind the fact that the Russians do not have a true first-strike capability because the window of vulnerability was never open; never mind that Soviet advantages on land are fully matched by our superiority in the air and under water. Because the Russians do have weapons that can strike first at hard targets, the commission concludes that we must have them, too. When you disentangle all the report's complex language, that is all there is, and the commissioners neglect to tell us that we have plenty of weapons already that can strike hard targets second—our bomber force may be the best system in the world for this legitimate purpose.

For almost 30 years, we have made survivable second-strike strength our central strategic standard. Are we now to move, in a cloud of consensus prose and good intentions, to a nonsurvivable first-strike system?

At the very least Congress should dig deeper than the commission or its sponsor. It might begin by seeking counsel from all quarters—there are many outstanding students in its own ranks. It should not rely on a report written by a panel carefully selected to include only tested friends of MX. It might well find that the Scowcroft commission has almost everything right except the recommendations that was preplanned by the White House. In spite of the commission's unexplained insistence that all its ideas make a single package, Congress has every right and duty to take only what it finds truly needed.

Senator WARNER. Dr. Perry?

STATEMENT OF DR. WILLIAM J. PERRY, FORMER UNDERSECRETARY OF DEFENSE, RESEARCH AND ENGINEERING

Dr. PERRY. Notwithstanding the handpicked nature of the Commission, I think what I found remarkable was their ability to reach a unanimous conclusion on what were a set of significant, certainly nontrivial, set of recommendations. I support those conclusions without reservation and without qualification. Therefore, I thought the best thing that I might do in my discussion with this committee today is summarize for you my own rationale.

While there was a unanimity about the conclusions of the report, I think you might well believe that there was a wide diversity of views on why those particular actions should be taken. I believe that the primary mission of our nuclear weapons is to deter nuclear war. They have performed other missions, and it would be nice if they still could perform those other missions. But I believe the political reality today is that they cannot carry much more baggage than the very important mission of deterring nuclear war.

I also believe that our forces today are capable of performing that mission and will be for the foreseeable future, and, therefore, our modernization objective should be to maintain that capability as the Soviet Union changes their forces and importantly to improve the stability of the strategic forces. By stability I mean forces that neither invite nor threaten a disarming attack and forces that minimize the risk of nuclear war occurring by accident or miscalculation.

IMPROVING SURVIVABILITY

So I would like to focus my comments today on what I consider to be the very important objective of improving the stability of the strategic forces. This can be done by improving their survivability. That is the ability to ride out a surprise attack.

It can be done by improving their connectivity. That is the ability to have a positive control over the forces under stress.

And it can be done by moderating their striking power. By that I mean by not ourselves threatening a disarming attack.

Now, let me talk some about the survivability issue since I think it is an absolutely key point here. Our forces today that are at sea do have survivability and will have for the foreseeable future, and we have tried over the last decade a variety of means of achieving land-based survivability. We have proposed putting the missiles in trenches, putting them in a shell game, putting them in a dense pack. It seemed like every month there was a new proposal for how to make the land-based forces survivable. Indeed, we had what might be called bum-of-the-month proposals that seemed to be coming forth.

Relative to that point, the Commission's conclusion, which I heartily support, is that it is not practical to achieve a basing with fixed land-based systems that is survivable in any real sense of the word in the face of a determined counterattempt by the Soviet forces to apply either accuracy or MIRV'ing to defeat them. By not practical, I mean that we would be defeated either by technological limitations, by cost, or by political limitations, and the Commission fundamentally recommended we give up trying to do that.

Now, the second important conclusion of the Commission on this point was that the absence of independent survivability of land-based forces does not pose an immediate problem to the United States. That is, we have survivability of our strategic forces even if we do not have survivability of the ICBM. Or to put it another way, even if the Soviet Union ICBM could attack our silos and on a 2-for-1 exchange succeed in destroying those silos—even if that were correct, it would not equate to a disarming attack on the United States for three reasons which have been discussed at some length in the report, and I will summarize them briefly here.

First of all, a 1-on-1 or 2-on-2 attack against the silo is quite a different proposition than launching 3,000 or 4,000, 5,000 warheads against several thousand targets. The problems of achieving the operational control, of achieving the accuracies, are very formidable particularly when one considers that the first time one attempts this attack operationally is also the first time it will ever have been tried. One has to believe that Murphy's Law does not apply in the Soviet Union to believe that they could take that attack seriously.

The second point is that even if the attack were to be successful, we would still have several thousand warheads in our submarine forces which would have survived.

Finally, a point which was developed at some length in the Commission report has to do with the synergy between the bomber forces and the ICBM forces. The SAC briefing today covered that point, but briefly it is that it is not possible to launch a surprise attack against the bomber forces simultaneously with a surprise attack against the ICBM forces. A succesful surprise attack against one precludes a successful surprise attack against the other.

So for those variety of reasons I believe that there is no danger to the country of a surprise attack simply because our ICBM silos can be destroyed. Now, in time, I believe that the situation will erode, that if and when the Soviets develop antisubmarine warfare which allow them to detect our submarines at sea, and if and when they develop submarine-based missiles that are capable of attacking ICBM silos then the synergism that I am talking about begins to go away. If that occurs then there will be a problem with the survivability of the ICBM forces.

SINGLE WARHEAD MISSILE

I believe that the eventual solution to that problem is to go to a single warhead missile. However that missile is based, it is a fundamental solution to the problem simply because it reduces the attractiveness of the target.

Simply by having 1 warhead in the missile instead of 3 or 6 or 10, makes that target less attractive to attack. Whoever attacks the target is always worse off in the strategic balance after the attack than he was before the attack irrespective of how accurate and how high a yield his missiles may have.

Therefore, I believed and the commission endorsed that the single warhead is the best solution long term to the survivability of the land-based forces. This by itself, however, does not guarantee stability. It is only a stable solution if the Soviet Union also moves in time to the single warhead solution.

A major conclusion I would draw from this is that we cannot achieve security with weapons alone. It will take a combination of modernization program and arms control in order to truly achieve the stability which I have seated as an important objective of our strategic forces. How we achieve that arms control is at least as important a question as to how we modernize our forces, and I submit to you that the two need to be considered together. You cannot consider the arms control issue independent of the modernization issue.

I, myself, believe that in order to achieve this goal of stability of the forces and having both the United States and the Soviet Union in time having single warhead forces that we will need some encouragement for the Soviet Union to head in this direction. The phasing out of these large MIRV'ed missiles will take time, and as I said, for the Soviet Union, will take some incentive.

I believe that this can be achieved by a mixed program in the United States, a mixture of MX and small missile programs and that we work toward both the United States and the Soviet Union phasing out the MIRV'ed missiles at the same time.

START PROPOSAL

I would like to conclude then with a comment about what kind of an arms control approach might lead to this conclusion, and I do not believe there is a single magic formula, either a SALT formula or a START formula, which will allow that to happen, but rather there will be a series of agreements that take place over the next decade to achieve that. I believe that the START proposal embodies important principles which I support. Counting warheads is an important principle instead of counting launchers, and reducing the number of warheads is an important principle.

There are two problems with the current START proposal. One is that it also proposes counting launchers, and I would recommend removing that particular part of the START proposal. It has a further flaw in that it does not include air-breathing systems, the bombers and cruise missiles, in the proposal, and a comprehensive arms control proposal certainly has to make some accommodation for that part of our forces.

So I believe those two changes should be made in the START proposal, but in any event, I would concede that it may take quite a while to reach an agreement with the Soviet Union in this regard. In the mean time I think it is very important to have some arms control approach, while both countries are proceeding with the START negotiations.

The first of these is that I believe that we should ratify the SALT II. It has been useful. We are, in fact, accepting it in a de facto way today, but we are taking needless risks, I believe, not to ratify it, and I heartily endorse ratification.

Second, I believe we should be working for narrow agreements to channel the modernization program of the United States and the Soviet Union while we are trying to achieve a more comprehensive arms control, and I specifically suggest for your consideration that the build-down proposal which has been made on the floor of the Congress by Senator Nunn and Senator Cohen, and endorsed by others, might be appropriately addressed to this question of ICBM modernization while we are still in the process of negotiating the START proposal.

In particular, I would recommend that while we are trying to achieve this next round of ICBM modernization we try to get some agreement with the Soviets on a two-for-one warhead build down which would be a concomitant part of this modernization program. If the Soviets agree, they would probably build down by decreasing the number of ICBM warheads as they deploy new ones. On the other hand, in the United States, we would probably build down a mixture of Minuteman II and Poseidon warheads, and in time this would lead, I think, in a very positive direction toward the objectives of the START proposal and toward these objectives of much more stable forces.

Thank you.

Senator WARNER. Admiral Gayler?

STATEMENT OF ADM. NOEL GAYLER, USN (RET.), FORMER DIRECTOR, NATIONAL SECURITY AGENCY

Admiral GAYLER. Obviously, Mr. Chairman, I am very pleased to be here because these major decisions that are now before the Congress are watershed decisions, and in my judgment we should be very careful not to make them hastily. I think there is general agreement now that there is no emergency, no window of vulnerability, and I think we would agree that we should have a consensus of Americans behind the decisions that are reached.

I think that we have to consider the effect of further nuclear weapons programs in general and the MX in particular on our security. We have to consider its impact on the arms-control process and on the political process here and abroad. The Scowcroft Commission, and I have the highest respect for its members, including particularly Dr. Perry, I think, has done the best job possible under what, I believe, were onerous political constraints. They have suggested we adopt a package containing MX but sweetened by proposition for a new, less-destabilizing, single-warhead missile.

Thus, they suggest we can reach concensus, but it is a matter of fact that they have made a devastating case against MX when they closed the window of vulnerability and when they talked about the desired outcomes of nuclear arms control. I might say in passing that I think Dr. Perry has again made a devastating case against the MX.

We should have no hesitance in unbundling the MX from the rest of their proposals and in the way reaching an agreed solution. Most new nuclear weapons programs as presently conceived will have an adverse effect on our own national security. As a matter of fact, the history of our successive developments and the Russian counterdevelopments in nuclear weapons has been a history of shooting ourselves in the foot. There is not much consolation that they shoot themselves in the foot, too.

As we thrash around in search of technical one-upmanship in nuclear weapons, whether it be cruise missiles or Stealth or space weapons or whatever, we can expect after an interval to be matched in kind and in quantity by the Soviets. We and the Soviets each will find our security even more precarious than it is. So we have to understand better where our own true security lies.

DEFENDING AGAINST NUCLEAR WAR

First and foremost it is preventing the destruction of our country. Can we defend against the nuclear war? The short, accurate answer is no. Neither civil defense nor antiballistic missiles nor space defenses can protect populations against nuclear attack, so our only protection against destruction is to prevent nuclear war. There are, in fact, some pretty straightforward ways to reduce the risk of nuclear war between the superpowers.

We can improve the political atmosphere. We can abandon the dangerous doctrines of nuclear war fighting and nuclear counterforce. We can agree to a moratorium on development, deployment and particularly testing of new nuclear weapons while we negotiate major reductions. We can mutually redeploy the shorter range nuclear weapons out of range of each other through nuclear-free zones or other agreements.

Finally and most important, we and they can make major continuing and verifiable reductions in nuclear weapon stockpiles, to the point where each country has a minimum invulnerable deterrent against nuclear attack. In my judgment, we can put all of these mutually supporting measures in place, given the political will to do so, and if we do that, the United States and the world will be a much safer place.

We should not at the same time neglect our real and abiding security requirements. They have very little to do with nuclear weapon systems but a lot to do with geography. The U.S.S.R. sits in the heartland of Eurasia. Within its boundaries and that of its vassals are all of the sinews of war, men, materials, energy.

In contrast, we, the United States, are at the center of an oceanic alliance. We are all deficit countries. Taken collectively, we are much stronger than the Warsaw Pact we are concerned about, but we have to be united. That is politically united and that is also united physically, militarily, and in keeping the sea and airlanes open which bond our alliance together. That is a critical military necessity.

We must also, with our allies, be able to hold ground in places of our necessity, for example, Europe, for example, Korea, possibly other places. We have to be able to project and sustain power at great distances from the United States in support of our interest, in support of our policy, and in support of peoples and freedoms otherwise threatened. In my judgment, none of these basic, abiding requirements are aided in any way by the possession of nuclear weapons or affected in any way by the perceived nuclear balance.

There is simply no sensible military use for these weapons, whether they are strategic or theater or tactical because they inevitably and disastrously recoil on the user. But there is another security problem. Our preoccupation with nuclear weapons has led to serious neglect of real military and security needs, even at present budget levels.

MX—DESTABILIZING WEAPON

Now, turn to the MX. It seems to me that it meets perfectly the definition of a destabilizing weapon system. The combination of large numbers of warheads, high accuracy, and considerable yields puts the adversary's fixed targets, its missile silos, and command centers at risk. His obvious answer is to fire on warning, or worse yet, to fire first in the belief, however mistaken, that he is about to be attacked.

Its vulnerability makes it equally imperative for us to fire out of suspicion of attack. If we do not, then I agree with Dr. Perry, it is very unlikely we will lose all of them, but we will lose a lot of them. But this combination of threat and vulnerability gives credence to the suspicion that it is not the deterrent weapon at all, but a weapon designed for a first strike.

Maybe the best way to evaluate the effect of an MX program is to compare it with the critical objectives for arms control that were stated by the Scowcroft Commission. The Commission said "arms control can reduce the risk of war," but MX, a destabilizing weapon, increases that risk. The MX commission said "arms control can help limit the spread of nuclear weapons," but it makes no sense either for us or the Soviets to build up if we are trying to convince other countries that they, too, should not possess nuclear weapons.

The Commission said "arms control can remove or reduce the risk of misunderstanding of particular events or accidents," but certainly the risk is increased with a hair-trigger weapon. The Commission said "seal off wasteful, dangerous or unhelpful lines of technical development." MX seems to qualify on all three of these counts. The Commission said "help channelize systems into stabilizing rather-than destabilizing paths." While this description might fit the single-warhead missile, it does not fit the MX.

The Commission said "reduce misunderstanding that the purpose of weapons development," but MX inevitably looks like a first-strike weapon to the Soviets. The Commission said "reduce the need to overinsure against worst case projections." Three new types of long-range ballistic missiles, two new bombers, three new nuclear cruise missiles, and a new intermediate-range ballistic missile certainly seem to be overinsurance. It is not helpful if the Soviets do the same thing in spades.

"Make arsenals less destructivee and costly"—it hardly seems necessary to comment on this. And if, as the Commission says, "we should reduce the value and importance of individual strategic targets," what are we doing proposing to increase that value? We need, in my judgment, only those weapon systems necessary to deter nuclear war or nuclear blackmail. It is in our interest, as it is in the interest of the Soviets, to negotiate massive reductions toward minium invulnerable forces.

We have explicity disavowed the argument that we want to build MX as a bargaining chip. There remains only the argument that the Soviets will bargain seriously only if we build up first. But in Soviet eyes and by the testimony of expert military witnesses we are at rough parity now. They will regard further buildup by us as an attempt to gain destabilizing advantage.

Their most probable reaction will be to build up also to match. Some years, some billions of dollars and rubles later, we will reach an even more dangerous situation than we have now. Rather than bring them to reach agreement. we are far more likely to put off productive bargaining indefinitely.

The way to bargain with the Soviets is to appeal to our common interest that we each not be destroyed, that we not see nuclear weapons spread worldwide. On this solid foundation of self-interest, we can make a deal.

MODERNIZATION

Finally, to talk to modernization, it is my belief that modernization is needed and should be supported only for specific purposes, to reduce vulnerability, to improve safety, or to tighten control over the weapons systems. The U.S.S.R. will negotiate on their often reiterated principles of equal capability and equal security. They will react negatively to attempts to gain strategic advantage or to compel a change in the character of their forces. They will react positively to negotiating suggestions that are pragmatic and that are equitable.

In conclusion, it is my judgment that the MX, if adopted, will not lead to a more stable balance of forces, but to a less stable balance, not to more security, but to less security. It will not lead to arms reductions, but to arms buildup. The most effective counter to the Soviet MIRV'd land-based missiles is to remove their lucrative targets. This precludes any thought of MX deployment, and I therefore strongly urge that we terminate the program.

Thank you, sir.

[The prepared statement of Adm. Noel Gayler follows:]

PREPARED STATEMENT OF ADM. NOEL GAYLER

There is every reason to believe that most new nuclear weapons programs, as presently conceived, will have an adverse effect on our own national security. To see why this is so, consider first the history of some successive developments and counter-developments in nuclear weapons. It is a history of our shooting ourselves in the foot.

We invented the only thing that made an effective attack on the United States possible—the atom bomb. Before the atom bomb, no one could conceivably come against us at home. Now, we are at total risk to another superpower, and at considerable risk to any two-bit dictator or terrorist who can lay his hands on a weapon.

In a close race with the Soviet Union, we both next invented the hydrogen weapon, raising the ante by a factor of a thousand. Now, defense, which had been extraordinarily difficult, became impossible.

We then developed the intercontinental bomber and in another close race with the Soviets we both got back the intercontinental ballistic missile. Warning time was reduced from hours to minutes.

The submarine launch platform was a stabilizing step because of its invulnerability, but we have both on occasion deployed submarines so far forward that warning time was reduced even further.

We then invented—and predictably got back, after a short interval, the multiple independent reentry vehicles—MIRVs. Now, effective attack on ICBMs became possible, with all its destabilizing consequences.

As we thrash around in search of technical one-upmanship in nuclear weapons, whether it be cruise missiles, stealth, space weapons, or whatever, we can expect, after an interval, to be matched in kind and quantity by the Soviets. We each will find our security even more precarious than it is. We Americans must understand better where our true security lies.

Security is first and foremost preventing the destruction of our country. Can we defend against nuclear war? The short accurate answer is "no." Neither civil defense nor antiballistic missiles nor space defenses can protect populations against nuclear attack.

So our only protection against destruction is to prevent nuclear war. There in fact are some pretty straightforward ways to reduce the risk of nuclear war between the superpowers:

We can improve the political atmosphere—move back toward detente. We should knock off the insulting, threatening, and pointless rhetoric we use toward each other. We and the Soviets should recognize that our relationship is not a zero-sum game. It is not true that what injuries the Soviets helps us, and vice-versa. If we attempt gratuitously to make trouble for them, we can assuredly expect trouble back. This is not to condone Soviet behaviour, internally or externally. It is simply to recognize that to contain Soviet power and influence Soviet behaviour for the better requires strength and wisdom, not threat and bluff. The Soviet Union is a fact with which we must deal.

We can mutually abandon the dangerous doctrines of nuclear war-fighting and of nuclear counterforce. Renunciation would be more than mere paper declaration. Weapons characteristics and deployment, operational plans, exercises, and training would necessarily and irreversibly follow suit.

We can agree to a mutual moratorium to further development, deployment, and testing of nuclear weapons, while major reductions are negotiated. We were very close, indeed, to a comprehensive test ban during the time of Kennedy and Khrushchev. It is an abiding tragedy that the politics of the day did not permit us to close that gap. How very much more secure we would be!

We can mutually redeploy shorter-range nuclear weapons out of range of each other, through nuclear-freeze zones or other agreement.

Finally, and most important, we and they can make major, continuing, and verifiable reductions in nuclear weapons stockpiles, to the point where each country has a minimum invulnerable deterrent against nuclear attack.

We can put all these mutually supporting measures in place, given the political will to do so. The U.S. will be far more secure and the world a far safer place.

We must not at the same time neglect our real and abiding security requirements. These have little to do with nuclear weapons systems, but a great deal to do with geography. The U.S.S.R. sits on the heartland of Eurasia. Together with her bordering vassals she has all the sinews of war: men, materials, energy. In contrast, the U.S. is at the center of an oceanic alliance, formal and informal. Taken together, the allies are far stronger than the Warsaw Pact. But the links across the oceans that bind us together by sea and by air are vital to us. We must be able to keep them open, come what may.

We must also, together with our allies, be able to hold ground, in Europe, in Korea, and elsewhere, without resort to nuclear war.

And, we must be able to project and sustain power at great distances, in support of our interest, our policy, our influence, and the freedom and peace of peoples otherwise threatened by force.

None of these basic and abiding security requirements are aided in any way by the possession of nuclear weapons, or affected in any way by the perceived nuclear "balance." There is simply no sensible military use for nuclear weapons, strategic, tactical, or theatre. They inevitably and disastrously recoil on the user.

But there is another security problem. Our preoccupation with nuclear power weapons has led to serious neglect of real military and security needs, even at present budget levels. We apparently propose to attack military, morale, cut back on training, stretch out needed development, cut back on logistic support, in the interest of supporting nuclear weapons. We do so at our peril.

The MX exemplifies in purest form the futility and danger of nuclear arms developments which add instability to instability and counterforce to counterforce or attempt to gain a decisive technical advantage over the Soviet Union. MX meets perfectly the definition of a destabilizing weapons system:

Is combination of large number of warheads, high accuracy, and considerable yields puts the adversary's fixed targets—missile silos and command centers—at risk. His obvious and only answer is to fire out on warning, or worse yet, to fire first in the belief, however, inaccurate that he is about to be attacked.

Its vulnerability makes it seem equally imperative for us to fire on suspicion of attack—"use it or lose it." Its combination of threat and vulnerability gives credence to the Soviet suspicion that it is not a detterent weapon at all but a weapon designed for a first strike. Perhaps the best way to evaluate the effect of an MX program is to compare it with the critical objectives stated by the Scrowcroft Commission. MX works against all the arms control objectives that the Scowcroft Commission endorses. The Commission says arms control can:

"Reduce the risk of war." But MX, a destabilizing weapon, increases that risk.

"Help limit the spread of nuclear weapons." But it makes no sense either for us or the Soviets to build up if we are trying to convince other countries they should not possess nuclear weapons, too.

"Remove or reduce the risks of misunderstanding of particular events or accidents." Surely a hair-trigger weapon doesn't reduce that risk—it increases it.

"Seal off wasteful, dangerous, or unhelpful lines of technical development . . ." MX seems to qualify on all three counts.

"Help channel modernization into stabilizing rather than destabilizing paths." Amen. But, while this description might fit the single-warhead missile, it doesn't fit MX.

"Reduce misunderstanding about the purpose of weapons developments." But MX inevitably looks like a first-strike weapon to the Soviets.

"Reduce the need to over-insure against worst-case projections." Three new types of long-range ballistic missiles, plus two new bombers and three new nuclear cruise missiles, would certainly seem to be over-insurance. It doesn't help that the Soviets do likewise, in spades.

"Make arsenals less destructive and costly." Comment hardly seems needed on this. And if, as the commission says, we should reduce the value and importance of individual strategic targets, what are we doing proposing to increase them?

But what about the Soviets? Aren't the SS-18, SS-19, and possibly their new missile, just the kind of destabilizing weapons we have been discussing? Since they are already in the Soviet arsenal, don't we have to match them?

These questions go to the heart of the matter. Do these Soviet weapons have an equal destabilizing capability? Only if we provide high-value fixed targets. The Soviets have a preponderance of their force in high-value fixed targets; we do not. No reason to build ourselves into that trap.

But don't we have to match these Soviet weapons anyway? The Soviets often do dumb things. They have ruined their agriculture, constructed an extraordinarily inefficient industry, made many another political and economic mistake. There is no compulsion on us to emulate this one. We wouldn't ape their agricultural practices. Why emulate the worst of their nuclear weapon systems?

We need only those weapons systems necessary to deter nuclear war or nuclear blackmail.

It is in our interest, as is in the Soviets', to negotiate massive reductions toward minimum invulnerable forces. We have explicitly disavowed the intent to build MX as a bargaining chip. There remains the argument that the Soviets will bargain seriously only if we build up first to convince them we mean business, and to bargain from a position of equality. But in Soviet eyes, and by the testimony of expert military witnesses, we are at rough parity now. They will regard further buildup by us as an attempt to gain destabilizing advantage. Their most probable reaction is to build up also to match. Some years, millions of dollars and rubles later, we'll each have an even more dangerous situation than now. Rather than bring them to reach agreement, we are far more likely to put off productive bargaining indefinitely.

The way to bargain with the Soviets is to appeal to our common interests:

That we each not be destroyed.

That we not see nuclear weapons spread worldwide.

On this solid foundation of self-interest, we can make a deal.

As the Scowcroft Commission acknowledges, there are important, perhaps overriding political considerations that must influence our policies.

On the domestic side, there is the need to give an appearance of strength and to avoid apparent vacillation in our resolve. There is also a need to build a consensus of Americans, so that both our policies and our negotiating positions can be unified with the full support of the country. There is a clear majority that believes, correctly, that equal and verifiable nuclear arms control is necessary to our security. Any program that impedes that objective must give way, if there is to be consensus.

The politically astute way to hande that problem is to acknowledge, as John Kennedy did after the Bay of Pigs, that "We blew that one," put the MX to bed, and go on to more useful things.

The argument that there is a "window of vulnerability" has gone the way of the "bomber gap" and the "missile gap." It is now conceded that we are not in a specially disadvantaged position, and that, in fact, rough parity exists. We have more warheads, they have more yield. Taken as a whole, they have bigger weapons, we have less vulnerable ones. Modernization is needed only for specific purposes—to reduce vulnerability, improve safety, or tighten control.

Abroad, our allies are far less interested in the state of the strategic nuclear balance than they are in the local power situation that affects them, in the credibility of our commitment to mutual defense, and in the stability and wisdom of our leadership.

They perceive correctly that under the strategic nuclear standoff, it is local and useful military power that counts.

The U.S.S.R. will negotiate on their often reiterated principles of equal capability and equal security. They will react negatively to attempts to gain strategic advantage or to compel a change in the character of their forces. They will react positively to negotiating suggestions that are pragmatic and equitable.

In conclusion, it is my judgment that the MX, if adopted, will not lead to a more stable balance of forces but to a less stable balance; not to more security, but to less security. It will not lead to arms reductions, but to an arms buildup.

The most effective counter to Soviet MIRVed land-based missiles is to remove their lucrative targets. This precludes any thought of MX deployment, and I therefore strongly urge that we terminate the program.

Senator **Warner**. Thank you very much, Admiral.

Gentlemen of the committee, in order to provide each person with hopefully two rounds of questions, I would like to suggest that we contain our first round to 6 minutes apiece, and that will enable everyone present within a reasonable period to at least have one round, and then we will assuredly turn to a second round.

CONFLUENCE OF WEAPONS SYSTEMS

Now, Dr. Perry, the issue of the confluence of so many weapons systems at one time with IOC's between 1986 and 1994, you have got the Trident II system, Stealth, B–1, cruise missile, MX, and indeed the early stages of Midgetman, all coming and converging at one time. That has very serious budgetary implications which you are fully aware of, having been a manager in that area.

LEAPFROG ARGUMENT

Also, we are lacking, in my judgment, enough detail at this time to determine what the outyear costs will be for a number of these programs. Consequently, we could be confronted in a year or two with a decision to either scrap MX or scrap going to Midgetman. This leads to the debate on the floor of the Senate that I anticipate, namely, let us leapfrog over MX and go straight to the Midgetman, the thought being, it lends itself more to future arms control objectives, and it is probably a better system in terms of survivability and the like.

Would you address the leapfrog argument?

Dr. **Perry**. I am not convinced myself, Senator Warner, that there would be any cost savings in doing that, which is suggested by the context of the question. Certainly if we had started off with a single system, with the Midgetman system in 1975 or 1976, a single weapons system developing would have been cheaper than two, but a major part of the redundant costs between two programs has already occurred in the R&D of the MX.

So, from where we are today, and considering forces of equal warheads, then I am not convinced that there is any noticeable difference in the cost between a force of Midgetman only or a mixed force of MX and Midgetman.

Senator **Warner**. You recall how the United States helped with the problem of putting missiles to sea with the Polaris program which was indeed a remarkable achievement, largely due to the Department of the Navy, but it was a defensewide effort. Do you think if we mounted that type of effort with Midgetman that we could advance the IOC substantially?

Dr. **Perry**. I would caveat that first of all by saying I do not think there is any pressing reason to accelerate the IOC of Midgetman.

Senator **Warner**. If we were to leapfrog MX and go straight to Midgetman?

Dr. **Perry**. Even if we leapfrogged it, I am not sure there is any great reason for accelerating the date, but to answer your question more directly, if we were to go on a Polaris type or a cruise missile type accelerated concurrent program, I believe we could achieve an IOC, initial operating capability of the Midgetman missile by about 1990, perhaps a year earlier, with somewhat reduced performance.

I am not recommending that, but I think it could be done.

Senator WARNER. From a technical standpoint, in your judgment, it could be advanced into the very late eighties?

Dr. PERRY. 1989 or 1990. Probably, just as with the Polaris program, the initial deployment would be at some reduced performance rather than the final performance level.

VERIFICATION PROBLEMS

Senator WARNER. What are the verification problems that the new single warhead system would pose, and how could they be handled in an arms control agreement?

Dr. PERRY. It is an ironic situation here in that I believe the small missile is a very important positive step in arms control in general, but there is no question that it aggravates verification, simply because of the small size and the manner in which it might be deployed. I believe that there would have to be in the case of the small missile some degree of cooperation in order to make the small missile verifiable. I do not believe that has to extend to on-site inspection. It just extends to——

Senator WARNER. Intrusive type?

Dr. PERRY. No, I do not believe it need be an intrusive inspection. I think it simply means that the side who is deploying the missile has to deploy it in a way which lends itself to verification. If you recall in the Carter proposal for a multiple protection shelter system, the so-called shell game, the same point was true, that we had to cooperate in the way we deployed the system in order to make that system verifiable.

Senator WARNER. Gentleman, as I will be here for the balance of the hearing, I am going to yield the balance of my time to Mr. Quayle, who has indicated that he has to leave immediately.

Senator QUAYLE. I have to chair a hearing.

Senator WARNER. Fine. If you will pull the microphone around and take the balance of my time and your 6 minutes.

SURVIVABILITY AND VULNERABILITY

Senator QUAYLE. Dr. Perry, we have heard a discussion, and the Commission directs some of its attention to it, but the whole issue keeps coming down to survivability and vulnerability.

There have been a couple of articles that have come out recently, specifically, Professor Tsipsis at MIT and Professor Anderson at the University of Minnesota, questioning on really how vulnerable the silos would be, and questioning what we really know about missile performance and reliability in time of war and how accurate not only their missiles would be but how accurate our missiles would be and whether they could really do what we think that they could do.

I wonder, are you familiar with these recent studies? And if so, would you give us your observation on this vulnerability issue of whether it really is as serious a problem as we have been led to believe, or apparently believe it is right now?

Dr. **Perry**. Yes, I am familiar with them, and I would like to comment on two different aspects of them. First of all, the allegation that a guidance system used in an operational missile might not be as accurate or might not be sufficiently accurate to destroy the silos when they arrive, and second, the problem of operational degradation in a mass attack.

On the first point, I do not believe that there is substantial merit to the contention that the guidance system degradation under operational conditions would be serious enough to save the silos, so to speak. The allegation that we do not have a good enough model of gravity because we do not fly missiles over the North Pole, for example, I do not think is correct. I think our knowledge of the parameters we need to program the missile is sufficient, and it comes, among other things, from satellites that do fly over the poles.

So, I do not think the first part of that allegation, namely, that our guidance system would not be accurate enough, or their guidance system would not be accurate enough, is correct.

The second part, though, I think, has quite a bit of substance to it, and that is, even though a single Soviet missile or two could destroy one of our silos with high confidence, that the problems of mounting a mass attack of several thousand warheads against several thousand targets poses an enormous set of logistical problems and planning problems and operational problems, and I think if I were the Soviet planner trying to pull this off, I would lack quite a bit of confidence on being able to do it successfully, and I hope the Soviet planner has that same lack of confidence that I have that this could be done.

Senator **Quayle**. Do you think that in the past we have overemphasized the vulnerability of fixed silos?

Dr. **Perry**. I think probably so. I believe the contention that the silo is vulnerable is correct. It is the conclusion you draw from that, the consequences you draw from that that I think have been overdrawn, because you cannot draw from that, I believe, the conclusion therefore that the Soviets can mount a disarming strike against the United States. Precisely because of the diversity of our forces and the synergism of these various means of basing our forces, the difficulty of mounting a coordinated attack against them that would be truly disarming is, I think, virtually impossible.

So, yes, the silos are vulnerable. I think that point has been correctly made, but I think the conclusion that therefore the Soviets could mount a disarming attack on us is not correct.

Senator **Quayle**. Dr. Bundy, if I heard you correctly in your brief presentation, you said that it really is not as important to our allies to go ahead with the MX. Is that an accurate conclusion?

Dr. **Bundy**. I have seen no evidence that it is important, and a good deal of evidence that it is not.

Senator **Quayle**. A great deal of evidence that it is not important to our allies to go ahead with MX?

Dr. **Bundy**. For us to go ahead with MX; correct.

Senator **Quayle**. Which governments have taken a position that it is not very important for us to go ahead?

Dr. **Bundy**. Well, I have not heard from governments. I do not think governments would venture to comment adversely on the President's program. But there is a very good report of a meeting of the Trilateral Commission which appeared in the New York Times just last week in which an American, one of those associated with this recommendation, I believe, pressed the Europeans to say that if we did not build the MX, they would lose confidence in us, and he was told the opposite.

Senator **Quayle**. He said it would be a confidence builder?

Dr. **Bundy**. He urged them to tell him that they needed the MX, and they told him the opposite.

Senator **Quayle**. Well, I guess that at least I was in Germany, in Munich, in February, and other people here were, too. From the German Government and the people there of the party in power, from the observations that we got, and a lot of people, including the Secretary of Defense, that it was very important, since they are going to be taking the Pershings, and the direct information we had in conversation not only in public statements but in private statements was really to the contrary. I can only tell you this is what the Germans and the German Government and the German people that are in power there said—they feel that it is very important that we go ahead with the MX, and I suppose that we can find all of these differences of opinions on whether we should or should not do that, but at least from my observation I would really dispute that contention that it would not be important.

Dr. Perry, I wonder—one other question, Mr. Chairman, and then I will yield back. You were talking about one of the unattractive features of the MX is that it is a large target, that it is a major target with a number of warheads. One of the attributes of the small Midgetman, of going ahead, with a single warhead, is that the target is smaller, and you also talked, I believe, a little bit about our submarines.

Given that scenario, do you think that we should—or given that attitude, do you think that we should vigorously pursue the Trident II, D-5 missile, because it is a large target, or should we be moving away from that and toward fewer warheads or a single warhead as far as our SLBM capabilities are concerned?

Dr. **Perry**. I have supported proceeding with the Trident II missile, but I think it would be appropriate over the medium-to-long term to find a way of putting fewer of those missiles in any one submarine. In other words, the way I would deal with the submarine problem is not by putting fewer warheads on a given missile, but by putting fewer missiles on a given submarine, reducing then the number of warheads on a target that way. The target in this case is the submarine, not the missile, and our trend over the years has been to put more and more missiles on a given submarine, and I believe it should have been in the opposite direction.

So, the Commission does recommend, or did recommend, beginning an R&D program for a smaller submarine to carry the missiles so that in time we would end up with more targets at sea with fewer warheads.

Senator **Quayle**. So, this argument would not be any reason not to go ahead vigorously with the MX?

Dr. **Perry.** No; it would not.

Senator **Quayle.** Thank you, Mr. Chairman.

Senator **Warner.** Senator Nunn?

Senator **Nunn.** Thank you, Mr. Chairman.

I will just ask two or three questions, because I know we have got a good many Senators here, but let me ask Dr. Perry this:

Dr. Perry, it seems to me that those who say that, as Admiral Gayler did, that the MX deployment is contrary to a great number of the arms control and stability arguments of the Commission, the long-term arguments, I think there is a legitimate point there. It seems to me then that the MX is being advocated to fill the gap before we can get a more stabilizing system, one reason. Two, to create additional incentives for the Soviets to negotiate a more stabilized arms agreement. And three, I suppose, overall, will and determination, and expression.

Now, under that assumption, if I am correct, it seems to me that MX deployment or a portion of it, perhaps two-thirds, perhaps a half, could very well be tied to arms control and to possible Soviet response, saying, in effect, that we would not build all of the MX if you will take certain actions. First, your comment on that kind of tie-in. Second, what kind of Soviet actions would be required, and I am not trying to pin you down to numbers, but more concepts, what kinds of Soviet actions would be required for you to be willing to forgo the MX or a large portion of it, and then go right ahead with the more stabilizing measures that the Commission has recommended?

BUILDDOWN APPROACH TO ARMS CONTROL

Dr. **Perry.** I think the kind of an arms-control measure that I would prefer to tie the MX to is, instead of offering to deploy fewer of them, I would instead offer a builddown of existing forces, instead of, for example, simply use the MX on a one-for-one replacement with Minuteman III. That is the proposal which you heard from SAC this morning, and that would mean that we would be replacing 3 warheads with 10 warheads, which is a buildup, instead of a builddown.

We could offer to the Soviet Union a bilateral agreement to builddown as we modernize the ICBM force. That would be, in my view, the best way of tying this to arms control. I am afraid that is not completely responsive to your question, but that would be my way, at least, of tying the MX deployment to an arms control, and I think a sincere offer of that nature——

Senator **Nunn.** Going ahead with the entire 100, but saying when we put in 100 MX's we are going to be adding gradually 1,000 warheads, and we would offer you that if you would agree reciprocally we would offer to take down 2,000.

Dr. **Perry.** Take down 2,000 waheads, right.

Senator **Nunn.** Thank you.

BUILDDOWN CONCEPT

Dr. Bundy and Admiral Gayler, Dr. Perry has addressed this builddown concept. Could we get both of your views on that, builddown as an interim step to facilitate arms control in moving in the right direction while we were negotiating more substantial reductions?

Dr. Bundy. I think there is considerable merit in the notion of a builddown, and it is, I think, a reasonable way of combining arms control with any necessary modernization, but I must say that I would not begin with a force that I did not like for the long term. That seems to me the wrong way around.

Senator Nunn. You would not begin with the MX?

Dr. Bundy. No.

Senator Nunn. Dr. Bundy, one other question. Do you endorse the freeze as it has become known?

Dr. Bundy. I would vote for the freeze, Senator, and I would want to extend my remarks and explain that I think it is going to be very hard to get, that the combination of the words "immediate," "bilateral," and "verifiable," covers a very large amount of territory. I would go to the Soviets for almost any freeze I could get, and the wider the freeze, the better, but it will not come easily.

Senator Nunn. Admiral Gayler, could you comment on both of those, the builddown first and the freeze second?

Admiral Gayler. Well, I think that the builddown, in that it results in a net decrease in the number of nuclear weapons, and I agree fully with the Commission and other suggestions that it is the weapons we should consider and not the delivery systems in any arms controls game, has great merit for that reason. You get fewer weapons.

I have reservations, serious reservations, unless you also specify that you do not build up destabilizing weapons. Even if you get a net reduction, if the ones that you add are specifically destabilizing, then I think that is a mistake. For that reason, I think we should recognize that the only legitimate reasons to attempt to modernize the force are to improve safety, to improve control, and to reduce vulnerability. You probably know that together with Ambassador George Kennan and some very senior and respected scientists, we have developed a complementary scheme to the builddown which involves the Soviets and ourselves turning in nuclear weapons for actual destruction, converting fissionable material to peaceful use, and getting rid of them. We think this scheme would fit with builddown or with START for any other real reduction, and at an appropriate time I would certainly like to expand on that for you.

Now, the other question, Senator, was?

ENDORSING A FREEZE

Senator Nunn. We are taking a look at that in connection with the builddown. I think your ideas there are very innovative and positive. The second question was on the freeze, whether you would endorse a freeze.

Admiral Gayler. The freeze is not clearly defined. It has by implication a number of different things in it. I support it as an idea, a commonsense idea that you do not build up while you are trying to negotiate reduction. The history of our negotiations with the Soviet Union has been that while we were negotiating reductions, the forces on either side increased geometrically. So it makes sense in that way. But I would like to see the actual negotiation take the form of a moratorium, sort of an understanding that we quit building up while we are seriously negotiating reductions, and specific elements of a freeze, for example, a comprehensive test ban, I think we could go ahead and negotiate right away.

Senator NUNN. Does that mean you would vote for the freeze as it now is understood? Would you vote for the builddown in preference, or which would you prefer?

Admiral GAYLER. I do not think they are incompatible. In my view, the best thing that could happen would be an agreed moratorium between the countries while we negotiate and carry out reductions either through builddown or another system equally good.

Senator NUNN. But you said you would go ahead with certain types of modernization. How is that compatible with a freeze?

Admiral GAYLER. I said the only types of modernization that I think are justified are the ones that—for the purposes I specified. Modernization and freeze get into this problem of precisely what is a freeze. That is why I like the word "moratorium." That means presumably you can finish building a half-built submarine, but you do not haul off and have a new MX program. It is that sort of distinction.

Senator NUNN. My time has expired. Thank you.

Senator WARNER. Senator Cohen?

GETTING THE SOVIETS TO REDUCE SS-20 MISSILES

Senator COHEN. Admiral Gayler, how would you get the Soviets to reduce their SS-20 missiles?

Admiral GAYLER. I think you do that by moving from talking to the Soviets in these arbitrary classifications of theater weapons and strategic weapons and tactical weapons to considering nuclear weapons as a whole, and in the framework of a total arms agreement with the Soviets, I think we could easily trade off SS-20's against something of value that we have.

Senator COHEN. You may recall that Brezhnev declared a moratorium on the deployment of SS-20's almost a year ago, which was almost immediately either violated or rescinded unilaterally.

Admiral GAYLER. It happens that the Washington Post had a very perceptive article on the subject this morning. Have you had an opportunity to see it, Senator?

Senator COHEN. I have only seen the one I was going to refer to in a moment called U.S. Arms Control Shift Urged by The Challenges to U.S. National Security.

Admiral GAYLER. This is one specifically on the subject of whether the Soviets have violated that agreement.

Senator COHEN. Not on whether they violated SALT I or SALT II.

Admiral GAYLER. No, the self-imposed moratorium. I misspoke when I said agreement. The argument is that given the conditions that Brezhnev laid down, given his definition of European-based missiles, and given that the Soviets intended to include in their statement that they would not build more, the fact that they would complete ones underway, then the argument is that the 351 is exactly what they said they would agree to, and they therefore have not violated their own self-imposed moratorium.

Senator COHEN. I see. So in other words what Brezhnev was saying was, he will not build any more, and then we are currently on the planning board?

Admiral **Gayler**. No, not on the planning board. Under construction.

MINUTEMAN III—HARD-TARGET-KILL CAPABILITY

Senator **Cohen**. Dr. Perry, does the Minuteman III have a hard-target-kill capability, in your judgment?

Dr. **Perry**. In my judgment, it does have a hard-target-kill capability, not as great as MX, but not insignificant by any means.

Senator **Cohen**. Earlier today we had testimony that it did not possess the accuracy or yield that would allow it to be classified as having a hard-target-kill capability. You would disagree with that?

Dr. **Perry**. I think probably the way the question should be addressed to the two people who answered that question differently is, what is the probability of a single-shot kill against a target of specified hardness. We might come up with the same answer to that question, but it is not an insignificant hard-target-kill capability.

Senator **Cohen**. And with an improved guidance system on the Minuteman III, would that increase its kill capability?

Dr. **Perry**. Certainly.

SOVIETS PERIOUSLY CLOSE TO A FIRST-STRIKE CAPABILITY

Senator **Cohen**. It was said this morning that the Soviets are perilously close to a first strike, and I just heard you say a moment ago that it was not correct that the Soviets could mount a disarming attack against the United States. Do you think they are perilously close to a first strike?

Dr. **Perry**. I think that their ICBM forces today are capable of attacking and destroying most of our ICBM silos. Subject to the uncertainties of an operational nature that I mentioned, I do not believe this is a disarming first strike. They would still have to face our bombers and cruise missiles, our Trident and Poseidon submarine forces, which are formidable, and I would not call that a disarming first strike, and again, it may be a semantic difference.

Senator **Cohen**. We need a definition of what constitutes a first strike, because I raised the issue, as I have in the past meetings, as to whether or not the MX plus the D–5 on the Trident II would constitute a first-strike capability.

Dr. **Perry**. I would differentiate between a counterforce capability where they can use their ICBM's to attack our ICBM's and a disarming first strike which is quite a bit more than that.

Senator **Cohen**. Just so I do not alarm the news media that is here, the quote was, "perilously close to a first strike capability." They are not contemplating the first strike just yet. Staff just advised me I should add that word, "capability."

Let me just come to what Senator Nunn was asking you about, and that is the guaranteed builddown concept. Is it not possible to strip away the military considerations. If you do so, then General Jones has indicated that the MX does not have much military utility. In other words, he said, as I recall, that I could find better ways to spend my money if you take away—if you just look at the military considerations.

Then he went on to say, but there are other factors which the Commission obviously put a higher value on, namely, the need for arms control, and No. 2, the need to move to a single warhead missile. Senator Nunn was asking before, is there not some way in which you could have a production line initiated without the actual deployment of MX in order to persuade the Soviets that there is a national consensus and a national will to go forward with the deployment of what is admittedly a destabilizing type of system in order to have them come to the negotiating table?

Dr. **Perry**. I guess I would question the premise, Senator Cohen, because I do not believe the MX system as proposed is destabilizing. I want to be very clear. I would not and do not support an MX program that would involve enough warheads to provide a true first-strike capability. Second, I do not support an MX program in isolation from the single-warhead missile. To me it is an integral part of the package, and it is the direction in which we must be going.

Specifically, I do not agree with the—maybe it is a semantic difference, but the statement on the last chart in the SAC briefing today, where they described the single-warhead missile was an option. That was not conceived as an option by the Commission. It was conceived as an integral part of the recommended program.

And finally, I would not support an MX program in the absence of an arms control approach, and we have talked about some specific arms control approaches here. I would like to see the arms control tied more directly and more specifically to it than just in a general sense.

So, with all of those caveats, then I say, no; I do not believe the MX is necessarily a destabilizing force.

Senator **Cohen**. And the way you would tie it would be through a guaranteed builddown process?

Dr. **Perry**. That would be a good way of doing it, certainly.

Senator **Cohen**. Thank you.

Senator **Warner**. Thank you, Senator Cohen.

Before turning to Senator Exon, we have asked our witnesses on previous panels to define first strike. Would you provide that now? And then I will turn to Senator Exon.

DEFINING FIRST STRIKE

Dr. **Perry**. In the sense that I have been using the word, Senator Warner, a disarming first strike would be a surprise attack against your opponent's forces that disabled his strategic forces to such an extent that he could not effect a significant retaliation, and that means necessarily then a strike against the whole set of strategic forces he has, not just one component.

Senator **Warner**. Would you further subdefine your meaning of surprise as it relates to generated and nongenerated?

Dr. **Perry**. I use the word "surprise" to be nongenerated forces, nonalert forces.

Senator **Warner**. Admiral Gayler, would you like to provide your definition?

Admiral **Gayler**. I agree with that. Nongenerated.

Senator **Warner**. Dr. Bundy, did you have any variation in that?

Dr. **Bundy**. I think the important point about a first strike weapon is that it is a weapon that can kill an important military target but it cannot survive to do so if attacked first.

Senator **Warner**. Thank you.

Senator Exon?

Senator **Exon**. Thank you, Mr. Chairman.

Gentlemen, I join my colleagues and welcome you here this morning. We appreciate very much your testimony. Let me start out, if I might, with Dr. Perry. He was the only member of this panel whom I have worked intimately with, and especially during the first 2 years that I was in the U.S. Senate. I have a high regard for him, and so the questions that I am about to ask you, Dr. Perry, do not mean that I have any less respect for you. I am just trying to probe the reason why you have gone offbase. [General laughter.]

I do not agree with you, Dr. Perry, that it was remarkable that this Commission reached a unanimous conclusion, because I basically think—it is pretty obvious to me that it is more of a political conclusion than a military one. Let me ask this question. Who is the principal author of this Commission report? You all did not sit down and write this. Somebody had to put it together. Is it your language?

Dr. **Perry**. No. The person who actually put the pen to paper was Jim Woolsey, but that is not to say that the ideas were Jim's ideas. They were discussed and debated sentence by sentence with the entire Commission, so in every real sense the Commission was the author of the report, and we spent perhaps 3 or 4 solid days going over line by every line of that report, so when I say Jim actually wrote it down, that is not to say that it is his report. It is truly the Commission's report.

Senator **Exon**. Well, when you say that we sat down and went over it line by line, do you mean all of the Commission?

Dr. **Perry**. Essentially all of the Commission, minus the counselors. Some of the counselors came in for some of that session, but it was nearly all of the commissioners for nearly every day that the drafting was taking place.

CONSIDER MX AS DESTABILIZING ACTION

Senator **Exon**. Dr. Perry, is it not true that the deployment in a nonsurvivable mode of Minuteman silos is the most destabilizing action that this Nation has taken with regard to nuclear weapons, at least in modern times?

Dr. **Perry**. The deployment? I am sorry, I did not understand the question.

Senator **Exon**. Is it not true that the Commission's suggestion of deploying the MX missile in vulnerable Minuteman silos is the most destabilizing action that this Nation has taken in recent times?

Dr. **Perry**. I do not believe it is destabilizing, Senator Exon, or I would not have supported the recommendation, and the reason I believe it is not destabilizing I have mentioned before, but let me just summarize the two major points, the first one being that in the quantities that are being employed, it in no way poses a disarming first strike to the Soviets. It does not even pose a disarming first strike capability against their ICBM's, much less their bombers, and second, because of the synergism of the bomber and the submarine forces, I do not believe the Soviets would have a first-strike capability against the United States.

For those two reasons, then, I do not believe it is destabilizing. I would have preferred an ICBM deployment which by itself was survivable, and I believe that the single warhead missile will get us there in time.

Senator EXON. In other words, what you are saying is that until we get to something that is survivable, you think this is the way to go?

Dr. PERRY. Yes, I do.

Senator EXON. What about the argument that we hear so often nowadays that the Minuteman IV is really the MX, that when we first envisioned this new weapon, that it was merely a carry on for modernization of the Minuteman weapon. Is that accurate, in your view?

Dr. PERRY. I think as the Commission's recommendation of the MX could be construed as a Minuteman IV. It is simply putting an evolutionary improvement on the Minuteman missile with the same basing concept, in the same bases, and with the same operational concept. Yes, it could be considered as a Minuteman IV.

Senator EXON. But was it designed for a Minuteman IV in the initial instance?

Dr. PERRY. Different people had different views of it. I believe the Air Force's original view of the MX missile really was as a Minuteman IV, an evolutionary improvement of the Minuteman.

ICBM BASING OPTIONS

Senator EXON. I cite to you, Dr. Perry, and ask you to give me a statement on this paper, ICBM Basing Options Office of the Deputy Under Secretary of Defense, Research and Engineering, Strategic and Space Systems, December, 1980. Were you not in that office at that time?

Dr. PERRY. I was the supervisor of that office.

Senator EXON. Are you familiar with the report "ICBM Basing Options" that I have made reference to?

Dr. PERRY. Yes, I am, and I am afraid it is going to be quoted back to me now. [General laughter.]

Senator EXON. It is about to be. The second paragraph of this report starts out in this fashion: "The search for survivable ICBM basing concepts beyond our Minuteman basing started in the mid-1960's, when technology pointed to the eventual vulnerability of fixed targets." You know, that is really the thrust of the situation, and therefore it is very difficult for me, and I ask this in all sincerity, how could you be author of a report like this and then sign that Commission report?

Dr. PERRY. Senator Exon, I spent a good many years of my life pursuing a survivable ICBM basing mode, and I testified to this committee, among others, on ways of achieving that. I have to say that I and others who are trying to do that basically have failed in being able to do that. The solutions which were technically acceptable were not politically acceptable, and the solutions that were politically acceptable were not technically acceptable, and we were not able to come up with a solution which met all of those requirements.

The Commission in considering that dilemma finally recommended that we give up the attempt to try to find such a basing mode and proceed expeditiously toward a single warhead missile which solves the problem in a different way. Instead of trying to make it a survivable base, it just poses a target which is an unattractive target, and therefore reduces the likelihood of attack by that means.

Senator EXON. My time is up, Mr. Chairman. I would simply say, and I assume, Dr. Perry, that you did not recommend to President Carter or to the Secretary of Defense at that time that we deployed the MX in the Minuteman silos.

Dr. PERRY. I did not. And, even today, I would not recommend that as a single and final mode of deployment for the missile. I believed then and I believe now that that would be a mistake.

Senator EXON. Thank you, Mr. Chairman. Thank you, gentlemen. I hope I will have a second round of questions for the others.

Senator WARNER. Senator Levin?

Senator LEVIN. Thank you, Mr. Chairman.

Gentlemen, it is good to have you here. Dr. Perry, is it fair to say that you are of the view that basically we should not put the MX in a nonsurvivable basing mode, but that agreed with the Commission recommendations providing that we proceed expeditiously to build the Midgetman?

Dr. PERRY. I do not understand the first part of the question, Senator. Could you try it again?

Senator LEVIN. You are basically of the position still that we should not be putting MX in the nonsurvivable basing mode, but have agreed to that as part and parcel of a larger agreement that we proceed expeditiously to the Midgetman? You can accept the MX in a nonsurvivable basing mode only on that condition, even though you still really are opposed to it?

Dr. PERRY. I am afraid that is putting words in my mouth, Senator Levin. I would not agree to a deployment of the MX in Minuteman silos by itself. I think it is necessary to have it as part of a package which gets to the single warhead missile expeditiously.

Senator LEVIN. But if you could have a package without it, would you also buy a package that just moved as expeditiously to Midgetman?

Dr. PERRY. I would prefer a mixed program rather than simply moving to the single warhead missile.

Senator LEVIN. So it is actually your preference that we have an MX? If there were Midgetman available right now for deployment and an MX available right now for deployment, you would go with a mixed package, even now?

Dr. PERRY. That is a little bit different question. That is a hypothetical question, since, of course, we do not have it available for deployment now. I am not sure how I would answer the hypothetical question. But given where we are right now with the MX missile, essentially completed with its development and ready for testing, and given where we are with the Midgetman missile, given those realities, I would prefer a mixed program, and it is truly a preference. It is not just a compromise.

Senator LEVIN. Is there anybody on the Commission who argued that we should not proceed to MX unless we can make it survivable?

Dr. PERRY. No, the Commission was unanimous in supporting the conclusions.

Senator LEVIN. I understand that, but was there anybody who argued during the deliberations of the Commission that we should not proceed to build MX in a nonsurvivable basing mode?

Dr. PERRY. Over the course of the 3 months of debate and deliberations, I imagine every point of view was expressed at one time or another, including that one.

Senator LEVIN. Did anybody——

Dr. PERRY. But it was not a point of view which anybody hung onto, or it was not a point of view which prevailed in the discussions.

Senator LEVIN. Was it a point of view that was strongly advocated by anybody?

Dr. PERRY. I would say there were three or four people in the Commission who definitely entertained the idea of not deploying an MX at all, and that contrary to the view that this was a group who were all ready to endorse the MX, I would say there were at least three or four people who seriously considered the option of not having an MX in the proposal at all, and that was in the first month or two. That was debated back and forth many times.

Senator LEVIN. Let me ask my question again. Was there anybody on the Commission who strongly advocated not proceeding to MX unless it could be placed in a survivable basing mode?

Dr. PERRY. I do not believe so.

Senator LEVIN. Is that a reasonable position for somebody to take, that it should not be deployed unless it is——

Dr. PERRY. Yes, I have taken that position.

Senator LEVIN. But you did not strongly advocate it in the Commission?

Dr. PERRY. I did not advocate it provided that we were going to a single warhead system. To me, that is the survivable basing mode.

Senator LEVIN. I do not understand. I listened to your testimony, frankly, this morning very carefully, and I do not understand why you are urging that we even have MX. A number of times today you say what gives us survivability, which you want, stability, which you want, is the Midgetman, that we can get there in time. You have said that this morning. I have not heard this morning yet why it is you recommend MX, but I will save that for a second round if there is, because I think I only have time for one more question on this round, and that has to do with the arms control connection.

ARMS CONTROL

You say that you would like to see the arms control tied in specifically with this MX, and that a way to do it is what you call a guaranteed builddown, but we will still go ahead with the MX. Is that correct?

Dr. PERRY. That is correct.

Senator LEVIN. My question is this. Can you give us some other ways legislatively that we might tie in any authorization of the MX to movement in the area of arms control other than that particular way which requires us to proceed with MX? For instance, would you think it might be reasonable that we would legislatively, even if we authorized MX, say, let us pause in the flight testing of it until we can see whether we cannot negotiate some arms control?

Do you see any problem with such a moratorium, even if we authorize the MX? Can you give us some other legislative options for us to stimulate arms control?

Dr. **Perry.** I thought long and seriously on that question, Senator Levin, and the builddown is, I think, the best shot that I can come up with in doing that. I am open to other ideas and have considered other ideas, but of the ideas which I have heard or discussed, that is the only one which seems to me—the only one I have thought of so far, at least—to have merit.

Senator **Levin.** And that requires the 100 MX being authorized, does it?

Dr. **Perry.** Some number of MX being authorized, yes.

Senator **Levin.** Not necessarily 100? Could it be some number less than that?

Dr. **Perry.** There is no reason just from the point of view of the builddown proposal alone, there is nothing magic about the number 100.

Senator **Levin.** But some MX would have to be authorized?

Dr. **Perry.** Yes.

Senator **Levin.** Thank you, Mr. Chairman. I think my time is up. If it is not, I have lots more questions.

Senator **Warner.** Our timekeeper stepped out.

Senator Kennedy?

Senator **Kennedy.** Thank you, Mr. Chairman.

First of all, I want to welcome all of you here to the committee. The testimony has been enormously valuable and informative, and the writings that you have done have been extremely helpful to the Senate in bringing both experience and understanding to this issue.

Dr. Perry, in the area of arms control, would you not agree with me that the recommendations with regards to the MX and the number of warheads is really inconsistent with the START proposals that have been made, with the President's recommendation on arms control?

What I am talking about here is the 5-to-1 ration in terms of warheads to missiles versus the 6-to-1 ratio which would be reached if you had actually had the deployment of the MX missile, so we basically have, as I understand it, a recommendation which would be inconsistent with the START proposals. Should we expect some modification of the administration's proposal at START to move us in what you have stated to be one of the important reasons for the support of this proposal, and that is the arms control feature?

START PROPOSAL—LIMIT ON LAUNCHERS AND WARHEADS

Dr. **Perry.** I think the major deficiency of the START proposal is putting the limit on launchers as well as the limit on warheads, and that fixes about a 6-to-1 ratio between warheads and launchers, which it seems to me is a destabilizing ratio. We ought to be heading more toward a 1 to 1, or certainly a 2 or 3 to 1 would be a far better number than a 6 to 1.

Senator KENNEDY. But we have now, as I understand, a 5-to-1 ratio. START moves us toward 6-to-1. Should we expect if we follow your line of reasoning that the administration would modify its proposals for arms control?

Dr. PERRY. I have so recommended that they be modified to the extent of removing the launcher limitation, but I believe that the proposal to limit the ballistic missile warheads to 5,000 is a good move, and I would endorse that move. I do not think it is incompatible with an MX deployment. The MX deployment would be 1,000 ballistic missile warheads, and if one were to divide the ballistic missile warheads between the submarine forces and the ICBM forces, that would require a builddown in both submarine and ICBM warheads if you deployed the MX.

Senator KENNEDY. Do I understand from the panel, that what you were talking about in supporting the builddown proposal was that there would be no modernization in the systems outside of the modernization which would be included in the command, control and reliability, rather than modernization in terms of increasing capability from throwweight or some other form of modernization? Admiral Gayler, I think you have commented on that in an earlier question by Senator Nunn, and I was interested in getting the rest of the panelists' views on this aspect of builddown.

Dr. PERRY. My concept of the builddown is the simplest possible approach—whatever modernization you do simply requires you to reduce two warheads for every warhead you deploy, and it involves nothing more complicated than that.

Admiral Gayler was talking about limiting the kind of modernization you do to achieve certain objectives, and that is a different concept, and I do not disagree with his concept, but it is just more complex than these two I had in mind.

Senator KENNEDY. I think it is an important concept, and I wonder whether you agree with the concept, because I do think that there is a difference between this kind of builddown proposal and a builddown which also permits significant modernization of the weapons systems. I am interested in whether you draw the same kind of distinction, and if you do, which type of builddown you support.

OBJECTIVES FOR MODERNIZATION OF STRATEGIC FORCES

Dr. PERRY. I support the objectives for modernization of the strategic forces, of improving stability, and as Admiral Gayler indicated, that means improving survivability and ease of control and safety of the forces. I think those are the most important objectives for modernizing the force, but I believe a bilateral agreement with the Soviet Union on the builddown ought to be much simpler than that, and simply say two for one, and not try to specify qualitatively the nature of the modernization. I fear that we would not get the agreement if we tried to be too specific on that.

Senator KENNEDY. Dr. Bundy?

Dr. BUNDY. Well, I think I do generally agree with Admiral Gayler's standards for modernization, and in particular I think it is right not to think that there is anything gained by endlessly increasing warhead yields or warheads, for that matter, but there are problems of modernization with respect to the vehicles and carriers that have to be confronted, and I agree with Dr. Perry that what you are looking for is something simple enough to be understandable and negotiable, and at the same time sufficiently balanced so that you really want to negotiate. You might have a problem if the Soviets went to very large warheads, as they have done in the past, and might like to again.

So, there are issues of that sort which would arise, but broadly speaking, any limits that can be bilaterally negotiated would tend to be in our interest, I think.

HARDENING SILOS FOR MX MISSILE

Senator KENNEDY. Just a final question, because I see the time has moved rapidly. Dr. Perry, can we build MX silos, substantially hardened and thereby significantly enhance survivability? We have heard that statement made here during the course of the hearings, I think, in the full committee. I do not believe that the Scowcroft Commission was entirely prepared to believe this. They recommended a research study.

Dr. PERRY. I believe it is technically correct that we can build silos substantially harder than the ones we build today, maybe 10,000 or 20,000 or even 30,000 pounds per square inch hardness, but I do not believe that that would maintain survivability of the ICBM forces as the Soviets increase their accuracy. You reach a point of diminishing returns in that regard.

My own reason for supporting the hardening of silos is that I think that they ought to be hard enough so that there is no possibility of a cheap shot; in particular, taking out ICBM silos with relatively inaccurate submarine warheads; not because I think we can protect ourselves against a determined, highly accurate ICBM attack.

Senator KENNEDY. Thank you very much.

Senator WARNER. Senator Kennedy, if you had another question——

Senator KENNEDY. I have one other question: Admiral Gayler evidently felt that there could be meaningful arms control agreements even without the MX missile. Very briefly, maybe with a "yes" or "no" answer, do Dr. Perry and Dr. Bundy believe this as well?

Dr. PERRY. I believe it is possible, but it would be more difficult.

Dr. BUNDY. I believe it is possible and would be easier. [General laughter.]

Senator KENNEDY. That makes it very clear. [General laughter.]

Thank you very much, Mr. Chairman.

Senator WARNER. Gentlemen of the committee and others, I would like to make an administrative announcement. We have been informed by the leadership of the Senate that there is a strong probability the Senate will hold an executive session this afternoon. Consequently, this subcommittee will now cancel all of its hearings as previously scheduled so as to avoid a conflict. Of course, they will be rescheduled.

SUPPORTING A FREEZE MOVEMENT

Dr. Bundy, in your response to an earlier question, you indicated that you would support the freeze movement, although it has a lack of clarity. How would you redraft that?

Dr. Bundy. I do not think I would want to get into that competition, sir.

Senator Warner. All right, sir. Then in response to the answer you stand on, then, your extensive experience in dealing with our allies—how do you think our allies would interpret persons such as yourself and perhaps one body of the Congress—it is doubtful the Senate would join—adopting such a resolution that does not have a sense of clarity and, furthermore, the proponents of it are in dispute among themselves as to what it means?

Dr. Bundy. I think the alliance has a good deal of experience in interpreting the processes of American politics. My guess is that what the Ambassadors will report is that the people who want progress toward arms control have expressed themselves effectively in this resolution, which does not need to be read like a legal document because it is a political document.

Senator Warner. Turning to your testimony, I would like to read from the last paragraph. You state:

> If our country today had the very same strategic deployment that the Soviet Union has, relying on vulnerable MIRV'd ICBM's, the world would be an enormously more dangerous place than it is, because in that case each side might persuade itself much more plausibly than either one can today of the possible advantages of a preemptive strike.

I just want to clarify that statement. Does it suggest you believe that the Soviets are today tempted to preempt?

Dr. Bundy. No; quite the opposite. I said much more plausibly than either one can today. I think precisely because we have diversified and collectively survivable forces, there is no significant temptation of that sort right now.

Senator Warner. Under your definition of first strike capability, and I am going to try and repeat it, a weapons system which can kill important military targets but cannot survive an attack against it, does not the U.S.S.R. have a first strike capability today?

Dr. Bundy. It has first strike forces, but not a first strike capability, because we have survivable forces.

Senator Warner. Well, Minuteman would not fall into that category of survivable forces.

Dr. Bundy. Only when you take it in the context that the Scowcroft Commission correctly puts forward of its relation to other forces which survive in different ways against other threats.

Senator Warner. Well, are you suggesting that we are safer if the Soviets are tempted?

Dr. Bundy. I am saying I do not think they are tempted now. I think that if we had a force which was the mirror image of theirs, the temptation would go up because we would have a very much larger proportion of our force at risk.

Senator Warner. Gentlemen, as chairman I would like to give each of you now an opportunity on my time to clarify anything that you feel is necessary in view of the extensive testimony that has been given back and forth today. Is there a desire on your part to add something? I know Admiral Gayler has that desire.

Admiral Gayler?

ANTISUBMARINE CAPABILITY

Admiral GAYLER. One thing for the record, Mr. Chairman. Nuclear submarines customarily move from place to place under water and do not travel on the surface. The prospect for successful antisubmarine capabilities against ballistic missile submarines is very, very low. They are a much tougher target even than attack submarines because they only need to be kept quiet and concealed. They can travel very slowly. They can take maximum steps to conceal their presence.

Finally, the nature of effective antisubmarine forces is that they cannot operate effectively except in air space under their own control, and that means that in the far open oceans even if the Soviets had an adequate antisubmarine capability, which they do not, they could not operate anyway.

The second thing that I would like to suggest is that this committee, if it has not already, hear from qualified witnesses as to what is the probable Soviet actual reaction to the proposals that are made here by the Commission and others if they were, in fact, carried out.

There seems to be a thought that building up our forces will induce the Soviets to come to the bargaining table. That is at least a hypothesis. History seems to suggest otherwise, and I think it would be very good to get people really qualified to talk about the Soviet Union on that point.

Senator WARNER. Well, on that point you well remember the ABM Treaty. There was a considerable weight of opinion that that was induced by certain actions we took at that time.

Admiral GAYLER. The history on that, Mr. Chairman, as I understand it, is mixed. The chronology does not support that point.

Senator WARNER. I have seen the rebuttal of that statement.

Dr. Perry, was there anything that you would like to add?

Dr. PERRY. No, I agree with Admiral Gayler's statements about antisubmarine warfare and the relative invulnerability of the submarine force and the relatively high percentage of them that are at sea and, therefore, invulnerable at one time.

Senator WARNER. What percentages would you give it under that equation?

Dr. PERRY. I would think that well over half of our ballistic missile submarines are at sea and relatively invulnerable at any given time.

Senator WARNER. Dr. Bundy, any further clarifications?

Dr. BUNDY. I think I would simply like to underline the same point that Admiral Gayler has made, namely, that I really think that the anticipation so confidently expressed but not really argued in the Scowcroft Commission report that MX and Minuteman would encourage the Soviet Union to a constructive direction or lead readily to an improvement in the prospect for arms control is very questionable. My own judgment is that on the record of Soviet performance what will happen is the continuing deployment of the new Soviet systems which are already in the testing stage and that it will take a very different approach to move the Soviet Union even slowly and gradually away from the systems and the rockets in land-based MIRVed modes to which it is so heavily addicted.

I do really believe that it is right that since arms control is such a large part of the rationalization given for this recommendation that the committee would serve us all well if it would press into that with people who have experience in both the behavior of the Soviet Union and the conduct of arms control negotiations.

DEPLOYING STRATEGIC SYSTEMS TO CENTRAL AMERICA

Senator WARNER. Would you care to in that framework address the statements made recently by the Soviets with respect to the possibility of deploying strategic systems to Central America?

Dr. BUNDY. That is a different question really. That one arises in the context of the proposed Pershing deployment.

Senator WARNER. Yes, that I recognize.

Dr. BUNDY. I would be surprised, I must say, to see a Soviet attempt to install land-based weapons in the Caribbean area. I certainly would not expect and would strongly warn against a breach of the 1962 agreement with respect to Cuba. I think it is much more likely that what they are talking about is a further deployment of underwater systems.

Senator WARNER. Any other comments from the panel, and then I will turn to my colleague, Mr. Exon.

[No response.]

Then I will turn to Senator Exon.

MK–4

Senator EXON. Thank you very much, Mr. Chairman. I want to go back to the MK–5 for just a minute if I might.

Dr. Perry, is it not true that practically all if not all of the military leadership that you were associated with in the 1970's rejected as impracticable the deployment of the MX in Minuteman silos and that if there were people that did not reject that, could you name them?

Dr. PERRY. I think there has been a strong body of opinion both in the military and civilian leadership in the Government at the time I was in the Government that concluded that a force modernization which consisted of just putting MX in Minuteman silos would be a mistake for the reason that it did not address the survivability question, and I think many of those people would still have that judgment and I still have that judgment.

I will repeat again I think that move by itself is not a sufficient move as our only ICBM modernization program particularly in large quantities of MX missiles which I think would be destabilizing and would be a mistake.

Senator EXON. So 100 is not a large quantity of MX missiles in your opinion?

Dr. PERRY. One hundred is not a large enough quantity of MX missiles to put at risk the Soviet ICBM silos. It would put at risk about half of them.

Senator EXON. All right. Let me follow up on something that Senator Levin brought up. He asked you if there was anyone who took a forceful position on the Commission for really aborting the MX program and the answer was, as I understood it, you said probably not.

Was there any spokesman on the Commission who forcefully advocated a deceptive basing mode for the MX and held out for it?

Dr. **Perry**. I am really finding both of those questions difficult to answer because both of those points of view were discussed and debated and advocated at various times by various people in the Commission during the discussion. Nobody was holding out for any one position that I can recall, but certainly the deceptive basing, hardened basing, hardened and deceptive combinations and not having MX deployed at all, were all advocated and argued for and discussed at some length during the course of the Commission.

I would say that the alternative proposal that got most of the discussion had to do with deceptive basing in hardened silos, and there was quite a body of opinion which thought that would be a good thing to do.

Senator **Exon**. Let me ask the other two members of the Commission or the panel. What do you think we should do with the MX? Do you think it should be aborted, or do you think we should explore the possibility of deploying it in some other type of basing mode?

Dr. **Bundy**. I think experience has shown that survivable basing made for the MX is either politically or technologically impossible or both, and I think that I might keep it alive to try to see whether it could, in fact, be traded out against the new Soviet MIRV'ed missile which is in effect the Soviet MX. I think that trade is probably available and would constitute the beginning of a kind of a no-new-MIRV agreement. But that is all I think it is good for. I do not think you can trade it against the SS–18's, and I think it is an illusion to pretend that you can.

Senator **Exon**. Admiral?

Admiral **Gayler**. I think we should kill the program. I think we should kill the program because experience shows that if you let them live they keep coming back and coming back and coming back, and in this context I very much fear the single warhead missile will be killed by a surviving MX program.

When the bow wave of expenditures for both of these things shows up in the out years and the number of different strategic weapon systems that we have all come to a financing crunch, then I think there will be a very strong argument to continue the production line of the MX. "I am sorry we cannot afford the single warhead missile" will be said.

I think further Dr. Perry's suggestion that it is not destabilizing at a level of 100 is certainly plausible, but from the Soviet standpoint they have absolutely no guarantee that we will stop at 100. In fact, this Congress and this President cannot in our system make such a guarantee. So they would not react to it, in my judgment, in that way.

U.S. MILITARY DEFICIENCIES

Finally, I would really like to reiterate my previous observation that there are very serious military deficiencies of the United States not being addressed while we preoccupy ourselves with these nuclear weapons. For example, I am told that slightly more than one-half of our total defense research and development budget now goes to nuclear weapons. That is too big a percentage. There is too much on that and too little on our real military needs.

Senator EXON. So much so, Admiral, that we find that we cannot afford to give our troops an increase.

I thought that Dr. Bundy made an excellent point with regard to what the Soviets are likely to do if we proceed with the MX. There is considerable speculation now and pressure being put on the President according to the newspapers to come out and charge that the Russians indeed have violated some SALT agreements or at least are testing two supposedly new weapons, one of which is obviously an answer to MX. The rationale seems to be that if they are doing that then that gives us a reason. We have got to go ahead and build the MX.

It seems to me that Dr. Bundy made the point very well. If it is true that they are doing this then that will be their answer, and if their past history follows they would continue and expedite the program if we do go ahead with the MX. Is that rational thinking, and I would like all witnesses to answer the question?

Dr. PERRY. I would only comment that not building the MX offers, it seems to me, either no incentive to the Soviets or any assurance that the Soviets would not still go ahead with the building and deploying of this new missile that they are testing. That would be my anticipation.

I like far better the Commission's view that if we proceeded with the MX this gave us at least something to discuss and debate with them. Dr. Bundy put that in one particular context which is that we might even offer the trade of the MX for the new missile.

For that trade to have any credence at all the Soviets, I think, would have to believe that we were seriously prepared to go ahead and build and deploy it, so that I think it has to be understood that if you are offering the trade that you have, indeed, the political will to go ahead and build and deploy the missile if the trade is not accepted. I am not proposing that, but I am saying that it certainly is a caveat on the trade that has been suggested. This is the same problem that we would have in trading the Pershings and the GLCM's for the SS–20's or even some portion of the SS–20's. For the Soviets to take that offer seriously, they would have to believe that we have the ability to build and deploy those missiles which ability is under some question.

Dr. BUNDY. I suppose the question is whether you can develop the willingness to trade which is not evident in the administration in return for conditional willingness, if the trade fails, to do something and whether the something should be 100 or 50 or 10 or 1 or 0 is something the Congress might well wait on. Uncertainty is often very persuasive to the Soviet Union.

The other thing I would like to say about those Soviet missiles is that one man's modernization is another man's new missile. The Soviets say that they are building a modernization of the SS–13, and we heard this morning that the MX is a modernization of Minuteman III. They do not look that way when they are seen from afar.

Senator EXON. Admiral?

Admiral GAYLER. I believe that we should recognize that the Soviets will reach agreement with us when they think it is in their interest. I think our task is to find agreements that are in our interest and in their interest, and I think that task, if we are thoughtful about it, is pretty straightforward. It is in our interest and it is in their interest to move toward minimum invulnerable nuclear deterrent forces. Many a build down scheme, many a reduction scheme of the kind I advocate even with some modifications, the START scheme, all of those lead to that end. To build up further on the guess that that will induce the Soviets to bargain more seriously, I think, is a considerable misconception of the way the Soviets are likely to react.

Senator EXON. Thank you, Mr. Chairman.

Senator WARNER. Gentlemen, we have some questions for the record which we will submit to you and your answers will be deeply appreciated.

[Questions with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR JOHN W. WARNER

PRESENT SOVIET THROW WEIGHT ADVANTAGE AND SMALL MISSILES

Senator WARNER. General Davis, if the Soviets do not agree to accept an arms control proposal which requires in effect the demirving of their systems, would the throw weight advantage they currently enjoy (noted on page 23 of the panel report), be sufficient to permit barrages of [deleted] small missile carrying transporters if such transporters were deployed at main operating bases in existing U.S. military reservations? If that level of hardness in a transporter cannot be achieved and say only a [deleted] can be devised, how would that change the Commission's attitude toward this method of achieving "survivability" for the future?

General DAVIS. The Department of Defense prepared a Strategic Forces Technical Assessment Review for the President's Commission on Strategic Forces. One of the basing options addressed in this report was [deleted] hardened transporters deployed on [deleted] square miles of existing military reservations. [Deleted.] This basing option would have good survivability [deleted] against a Soviet SLBM surprise attack. However, a surprise Soviet ICBM barrage attack would be more stressing and would require a larger operating area. If, after warning of attack, the transporters were able to dash off base, the system is assessed as having good survivability against attacks as large as the entire Soviet [deleted]. This basing concept is sensitive to vehicle hardness and dispersal area. If hardness were [deleted] a significant increase in operating area would be required to maintain survivability.

It must be emphasized that, when compared to an attack against fixed targets, in launching such a barrage attack, the Soviets will be expending a very large portion of their available warheads with what can only be considered as uncertain results. Additionally, the consequences of an attack against a system based on U.S. soil are, of themselves a powerful deterrent, especially when the targets are not precisely located.

FIRST STRIKE

Senator WARNER. What would you consider to be the force levels and characteristics required for the United States to have a first-strike capability against the Soviet Union?

Do you anticipate that the cumulative effect of the USSR's R&D efforts will be the deployment of such a capability?

Do you believe that the United States, with the deployment of 100 MX missiles and the planned deployment of D-5 missiles would have a first-strike capabilitiy?

General DAVIS. First strike connotes the ability to eliminate an enemy's retaliatory capability in an initial attack. Under any conditions of conflict initiation, I believe our current forces (specifically, alert bombers and submarines) would enable us to retain the option for an effective response against Soviet economic/industrial targets. Therefore, under the most limited definition of U.S. retaliation, I do not believe the Soviets possess a first strike capability today. However, your question drives to the very heart of the current debate on strategic sufficiency because it asks: "What really deters?"

I do not believe reliance on the threat of countervalue targeting as our sole retaliatory option is a prudent course. Ongoing Soviet efforts to increase the counterforce capability of their nuclear forces have provided them a clear advantage in force-on-force effectiveness. This advantage raises the specter of the Soviets having the capability—or more importantly, believing they have the capability—to launch a counterforce first strike that would severely degrade our forces and limit our retaliatory options. All indications are that the Soviets are much closer to this capability than we would like, and their research and development programs are oriented toward maintaining and improving it. Should deterrence fail, even if we elected not to absorb the full impact of a Soviet preemptive strike, our forces could not carry out an effective response against military assets. This limitation is destabilizing because a response against economic/industrial targets would invite Soviet retaliation at the same level and, therefore subvert our attempts to control escalation and limit further damage of the nation.

Modernization of our Triad components (specifically, deployment of Peacekeeper and the D-5) will reduce this imbalance in force-on-force effectiveness, and, more importantly, will raise Soviet uncertainty concerning their ability to successfully carry out a preemptive attack—at any level—on the U.S.

Turning to your question on projected U.S. capabilities, I do not believe deployment of 100 Peacekeeper missiles in existing silos and the planned deployment of the D-5 missile will provide the U.S. a first strike capability under any definition of the term. Even with deployment of both Peacekeeper and D-5, we will not possess the required weapon numbers and systems accuracies to be confident of delivering a disarming first strike against Soviet silo-based forces alone. This does not even consider Soviet bomber and sea-based forces. The number of Soviet targets, their hardness and diversity would require a much higher number of increased capability weapons than planned.

Furthermore, as you know, the U.S. strategic Triad is not designed to provide a first strike capability. If our goal were to deploy a first strike capability, we would concentrate on those systems which provide the most prompt and accurate weapon delivery, as the Soviets have with their ICBMs. Instead, the Triad, by its synergistic nature, serves to convincingly deter the Soviets from attempting a first strike.

Indeed, the difficulty of countering the various components of the Triad is the most important reason for maintaining a balanced and modernized U.S. force structure. The Triad and the diversity it represents, together with our attack warning systems, contribute to the uncertainty facing Soviet planners and decisionmakers. That uncertainty is the key aspect of deterrence.

PEACEKEEPER LONG-TERM UTILITY

Senator **WARNER.** Is it your expectation that the MX as deployed in Minuteman silos would be a short-term investment or that we ought to plan on having it in the inventory for quite a few years—even assuming the best for our efforts to negotiate an arms control agreement with the Soviets which would result in its ultimate retirement?

General **DAVIS.** The limited deployment of 100 Peacekeeper missiles will have practical military and arms control utility for many years. The real tie between Peacekeeper and arms control is the added incentive it gives the Soviets to negotiate an equitable and stabilizing agreement at lower levels of weapons.

The desirability of a U.S. deployment of smaller, single-warhead weapon systems will not be dependent on Soviet agreement to do likewise, or even on negotiated reductions, although either or both would be useful in reducing required force size. But this will take time; the new small missile will not be ready for deployment until the early 1990's, and deployment of substantial numbers will require at least a decade. In the meantime, Peacekeeper in silos will substantially improve the deterrent strength of our ICBM force.

ALTERNATIVE ATTACK SCENARIO

Senator **WARNER.** The Scowcroft report's highly-structured attack scenarios suggest a choice for Soviet planners between simultaneous launch of their missile forces and simultaneous arrival of those forces. Is it not equally probable that an alternative attack scenario could be planned in which Soviet targeteers first attempted to neutralize or at least disrupt the American strategic command, control and communications system thereby disconnecting such forces as might survive the initial layer of an attack from receiving the necessary launch instructions from the National Command Authority?

Would such an attack scenario not, perhaps, cause one to attach significantly higher priority to providing U.S. ICBM forces with a survivable basing mode—such that they could remain viable even after being forced to ride-out a Soviet bolt-from-the-blue attack following a precursor attack against the U.S. C^3 system?

General DAVIS. The primary focus of the Report of the President's Commission on Strategic Forces was on how the diversity of U.S. strategic forces greatly complicates Soviet attack planning. It especially noted the difficulties of simultaneously attacking and neutralizing U.S. ICBM and bomber forces, and noted the unique qualities each contribute to the survival of the others.

Under worst case assumptions, the scenario you suggest could lead to [deleted] improving U.S. C^3 systems is the first priority of the President's strategic modernization program.

The challenges inherent in improving U.S. strategic connectivity do not, however, lead us "to attach a significantly higher priority" to ICBM survivability, but instead to attach that high priority to a phased and balanced improvement in our command, control and communications so that planned and existing SIOP forces will successfully deter the Soviets. The ICBM, because of its prompt military capability, is the strategic system that most dissuades the Soviets from any type of preemptive attack.

VERIFICATION OF A SURVIVABLE SMALL MISSILE

Senator WARNER. Would you give us your views on how a small missile—whose survivability is derived from its mobility or some combination of mobility and deception—could be made verifiable?

General DAVIS. I believe that the apparent obstacles to verification of a small, mobile ICBM are not insurmountable. We can and do monitor, with reasonable confidence, the numbers of small, mobile SS-20's deployed by the Soviet Union. During recent arms control negotiations, both sides have carefully protected th option of deploying mobile ICBMs, and have discussed various forms of verification. Inspection ports in missile shelters, periodically opening shelters for observation, special holding areas at assembly plants, and—at least on our part—perhaps even on-site inspection have been discussed at one time or another. Obviously, there is the potential for circumvention of any of these proposals, and a great deal of attention should be given to the precise wording of agreements which establish limits and the means by which limits are verified. Options for vertification of small mobile systems are now under study through the START Interagency Group process and initial indications are that the idea has merit. Verification is going to be tough, but it is possible.

TIME REQUIRED TO DEVELOP SMALL ICBM

Senator WARNER. General Davis, what is your best assessment of the length of time that would be required to develop, test and deploy a small intercontinental ballistic missile such as that envisioned by the Scowcroft Commission?

In your judgment, is it possible and desirable to seek a shortening of this development period?

General DAVIS. Air Force Systems Command has recently established an office to manage the new small missile program, and we have developed a Statement of Operational Need for an advanced single RV ICBM. Our efforts will be coordinated and mutually supportive. At the present time, the Air Force experts working this project indicate that the first of these new missiles could be deployed in the early 1990s. While program acceleration might be viewed as desirable, such action usually occurs at the expense of current readiness and other modernization requirements. We should take the time necessary to take advantage of emerging technologies and to insure the basing mode (or modes) selected will provide the required degree of military effectiveness, responsiveness, survivability, and endurability.

NO NEED FOR HARD-TARGET KILL: EMPTY SILOS

Senator WARNER. The argument has been made by witnesses who have appeared before the subcommittee previously that there was no need for the United States to increase its hard-target-kill capability. It is said that there would be only empty silos in the Soviet Union if the United States were to attempt to respond to a Soviet first strike by going after the USSR's high-value targets.

Would you comment?

General **Davis**. [Deleted.] The value the Soviets place on their ICBM reserves is substantiated by the extensive silo hardening program now underway.

[Deleted.]

Furthermore, although silos make up the majority of the Soviet hard-target base, they are not the only hard targets that might be attacked in response to a Soviet first strike. Soviet silos and the [deleted] hardened command and control bunkers, [deleted] communications nodes, submarine bases, [deleted] are all examples of the need for an improved U.S. prompt retaliatory capability.

SUPPORT FOR NEW ARMS CONTROL INITIATIVE

Senator **Warner**. As you know, an essential component of the Scowcroft Commission Report is its advocacy of a new approach in U.S. arms control initiatives. That is, the Commission recommended the substitution of limitations on warheads and throwweight for the limitations we have previously sought on launcher systems.

What is your attitude toward such a revision of our negotiating stance?

How do you believe such a revised negotiating emphasis might affect the structure of the forces under your command in the future?

General **Davis**. I join the President in his support for the findings of the Scowcroft Commission. The military community is now engaged in discussions as part of the START Interagency Working Group process, and any revision of our current negotiating stance will be made with full consideration for the military implications of the changes, and within the larger context of insuring national security.

As to the second part of your question, negotiated limits based on equal, verifiable and significant reductions on both sides would enhance strategic stability and reduce the risk of nuclear confrontation. The effect of such limits on forces is unknowable in advance, but if the primary goals are achieved, the composition of forces under my command is a secondary consideration.

"STABILIZING" VALUE OF SMALL ICBMS

Senator **Warner**. Do you believe that the small ICBM concept is inherently more stabilizing than our other strategic systems?

Was the Soviet SS-16 missile system not widely regarded as a potentially destabilizing weapon system—prompting its banning in the SALT II agreement?

General **Davis**. Senator, because a small, single warhead missile would present a less lucrative target than a MIRVed system, a U.S. movement in this direction would promote stability in the long-term strategic balance. Naturally, the degree of stability eventually achieved will depend upon our ability to negotiate an equitable and verifiable arms control agreement and our willingness to deploy a force large enough to make a Soviet attack a losing proposition for them.

In regard to the SS-16 controversy, we have always attempted to separate strategic systems from intermediate range systems, both as an aid to verification and as a confidence building measure. Because the SS-16 was capable of sharing a common launcher with the intermediate range SS-20, moves were made to ban that system during SALT II to reduce the potential for dangerous proliferation of unrecognized or disguised long-range systems.

MINUTEMAN III UPGRADE

Senator **Warner**. Considerable interest has been expressed in the possibility of upgrading the Minuteman III missile system as a near-term alternative to the MX missile. From your viewpoint as an operational commander, how would you regard such a proposal?

How soon could an AIRS guidance be deployed aboard 333 Minuteman missiles?

How do you regard the relative costs of obtaining a hard-target kill capability comparable to that proposed for the MX through such a minuteman upgrade?

General **Davis**. Senator, I just do not believe that a major Minuteman upgrade is the wisest course to pursue. While we could, with certain modifications (AIRS guidance, new third stage motor, and [deleted] achieve a single shot probability of kill nearly equal to Peacekeeper, there are reasons why this course is not advisable. [Deleted.] Second, the modified Minuteman would have [deleted]. Third—modifications notwithstanding—it would still possess the major components of a missile with already-identified aging problems.

The development community has indicated that AIRS could be initially deployed on Minuteman III in 1988 if we started now. Modification of 350 missiles would take from 3 to 6 years from that point, depending on the intensity of our effort to produce the AIRS guidance system.

Concerning your question on comparative costs, this type of information could more appropriately be obtained from costing experts on the Air Staff. Fiscal considerations aside, I do not believe a Minuteman upgrade, in lieu of Peacekeeper deployment, is the most sensible course to pursue considering our long-term deterrent requirements.

SOVIET COMPLIANCE WITH SALT

Senator **Warner**. Do you believe that the evidence of Soviet testing of two new ICBMs, extensive Soviet encryption of those tests, and other instances of Soviet efforts of interference with U.S. national and technical means of verification, represent infractions of the working agreements our two governments have concerning a shared policy not to undercut the SALT II agreement?

General **Davis**. Soviet encryption of their ICBM and SLBM tests has increased significantly. Naturally, this encryption widens our range of uncertainty about Soviet compliance with existing arms control agreements. As the President stated during his 17 May news conference: "We have a very great suspicion that new weapons testing may exceed the limits of existing arms agreements." High level diplomatic appeals for more information have been made to the Soviets.

As the President also pointed out, we do not have enough solid evidence of a violation to file a formal complaint with the Soviets. At this point, we are definitely less confident than we would like to be in our ability to accurately assess Soviet compliance with the provisions of existing arms control agreements.

IMPORTANCE OF LEVEL OF EFFORT ON MX SURVIVABILITY R&D

Senator **Warner**. Previous testimony has emphasized the fact that the Scowcroft panel has recommended, and the President directed, that a range of research and development activities be undertaken to continue to explore means of making the MX more survivable.

How important do you believe such activity to be?

General **Davis**. The most important thing in the near-term is to field the Peacekeeper as quickly as possible. Silo deployment is the fastest way to provide a prompt retaliatory capability against superhard Soviet ICBMs and command centers that currently enjoy virtual sanctuary against existing prompt systems.

Peacekeeper, with its modern technology and wide range of capability, is a missile we will need in the inventory for some time, and if we can identify a means of increasing its survivability and endurability that is militarily, politically and economically acceptable, we should pursue it vigorously. So, I do believes these activities are important.

At the same time, we should recognize that no one missile and no one basing mode are likely to satisfy all of the demands placed on the ICBM force. I view the R&D program on the new small missile as a very logical step in the evolution of our ICBM systems. The new small missile would reduce target value and permit flexibility in basing for better long-term survivability. The focus of our long-term research and development efforts is to move to a more stable ICBM structure by: (1) reducing the target value of our ICBMs by augmenting the force with a small single warhead ICBM, and (2) improving long-term survivability.

DE-MIRVING AND THE TRIDENT II

Senator **Warner**. In view of your endorsement of the President's proposal to move away from large throwweight, multiple RV weapons, do you continue to support the development of the Trident II missile system?

General **Davis**. I support the continuation of the Trident submarine construction program and the development/deployment of the Trident II (D-5) missile. The missile's greater range and improved accuracy will enable it to be effective against a portion of Soviet hard targets not currently threatened by the Poseidon (C-4).

The Commission did recommend reducing the value of individual ballistic-missile submarine targets by beginning research on smaller ballistic-missile submarines, each carrying fewer missiles. The objective is to design a submarine and missile system that reduces platform value and presents radically different problems to a Soviet attacker than does the Trident force. Thus, the report does not rule out MIRV'd SLBMs and envisions a strong role for the Trident II (D-5) missile. Obviously, as Soviet ASW improves, a move toward smaller SLBMs carrying fewer weapons each should be considered.

COSTS OF DE-MIRVING

Senator **Warner.** General Davis, has the Strategic Air Command performed an assessment of the potential life-cycle costs associated with a de-MIRVed U.S. strategic force structure such as that envisioned by the Scowcroft Commission?

How great do you believe such costs to be for a small-missile force of 1,000 missiles and launchers utilizing mobile transporters on existing military reservations?

General **Davis.** Estimates of life cycle costs are the responsibility of Air Force Systems Command, and they have not yet completed their estimates for basing the new small missile in the mode you mention or the several other under consideration. It is important early-on that we not limit our views on basing the new small missile.

A new single RV missile could be used in a full spectrum of missions including the major exchange and reserve force roles. A corresponding multiplicity of basing modes should be considered to provide the requisite military effectiveness, responsiveness, and enduring survivability tailored to the specific mission.

Questions Submitted by Senator Carl Levin

SOVIET STRATEGIC MOMENTUM

Senator **Levin.** General Davis, in your opening statement, you said, "As the strategic balance has shifted in favor of the Soviet Union, they have shown an increased willingness to exert their influence on a global scale." General, are you saying that the U.S. is inferior to the Soviet Union in strategic nuclear deterrent forces?

General **Davis.** At the present time, the Soviets are certainly not superior in all measures of strategic nuclear capability. However, they do have significant advantages in some areas such as ICBM throwweight, warhead accuracy (on their most advanced systems) and system hardening. They are also making great strides in improving the bomber and sea-based elements of their forces. What worries me most, Senator, is their overall technological momentum—the prospects for the future if we do not continue our modernization efforts. In the absence of a visible willingness on our part to modernize our military forces—both conventional and strategic nuclear—their willingness to assert their will in areas like Afghanistan and Poland will only increase.

UNITED STATES-SOVIET TRIAD TRADE

Senator **Levin.** Would you trade our strategic nuclear deterrent forces—our entire Triad—for that of the Soviet Union?

General **Davis.** Senator, if my goal was to achieve a prompt and effective warfighting capability—rather than to deter a nuclear war—the answer to your question would be yes. I can say with certainty that the Soviets possess a distinct and dangerous advantage in the warfighting capability provided by prompt and effective ICBMs. And there can be no question that they possess a very important advantage in that their forces are much newer than ours. However, a simple trade in total force structures would not be the answer to meeting our future deterrent requirements.

In fact, the two force structures have been designed to accomplish widely disparate objectives. The Soviets have elected to place disproportionate emphasis on their land-based forces (more than 70 percent of their strategic weapons are deployed on ICBMs) to achieve a prompt and effective warfighting capability. Our own projected modernization programs will improve our capabiity in that area, but will maintain a balance between prompt and slower-arriving retaliatory systems.

We must deploy modernized weapon systems to operate within our military structure and within the bounds of our stated national policy. The prime objective of our Triad is to create high degrees of uncertainty within the Soviet leadership as to the success of an attack under any condition of war initiation. Only a modernized and balanced Triad can sustain this kind of uncertainty.

ICBM SURVIVABILITY

Senator LEVIN. General Davis, you and Air Force Chief of Staff, General Charles Gabriel, have testified that the percentage of U.S. ICBMs which would survive a Soviet surprise attack—if we did not launch them on warning or during the attack but instead "rode out" the attack and launched after it—is 30 percent. You also said that would be the percent of MX which would survive a Soviet surprise attack in the late 1980's, if the MX were based in vulnerable Minuteman silos and if, again, we chose to "ride out" the attack before retaliating with our ICBMs.

Only about 4 months ago, on December 8, 1982, our committee received the following testimony that, under the conditions you assume in your statements, the number of U.S. ICBMs which would survive a Soviet first strike today would be only 5 percent:

> The Soviet Union through unexpectedly rapid advances in guidance technology now has the capability to eliminate some 95 percent of our fixed land-based ICBMs in a preemptive attack while expending only a small portion of their strategic forces.—Air Force statement/analysis provided by Lt. Gen. Lawrence Skantze. Chief of Air Force Research and Development.
>
> Secretary WEINBERGER [continuing]. Start with the ability to inflict very, very heavy damages, 95 percent practically, taking out the Minuteman on the first strike which would leave us with a substantially impaired capability of maintaining the kind of response that is required by deterrence. We will start with that one.—Response by Defense Secretary Weinberger to question for the record by U.S. Senator Carl Levin.
>
> Senator THURMOND. Mr. Secretary, in a preemptive first strike against our Minuteman missile and our bombers, what percentage of these systems could we reasonably expect to lose?
>
> . . . Approximately 95 percent could be lost if we ride out an attack.—Response by Defense Secretary Weinberger to question for the record by U.S. Senator Strom Thurmond.

How can you explain the contradictions between your testimony and that of General Gabriel in the last week with the testimony by the Air Force and Secretary of Defense just about four months ago?

General DAVIS. Only in the most pessimistic and unlikely scenarios is ICBM survivability below the 30 percent figure I gave you. Certain stylized scenarios conducted in isolation can mathematically produce very low estimates of ICBM survivability, however, such restricted and simplistic analytical exercises fail to recognize the complex strategic challenges that U.S. forces present to the Soviets. As such, those scenarios are of limited utility in evaluating current levels of ICBM survivability and, even of more import, fail to recognize the synergistic contributions of a total strategic force of bombers, SLBMs and ICBMS. Even in those cases, it is inappropriate to consider ICBM survivability estimates in isolation. Deterrence is based on Soviet perceptions; no conservative planner would discount the more probable levels of higher U.S. ICBM survivability.

I stress again, however, that to concentrate on either figure—5 percent or 30 percent—to the exclusion of the strategic contributions of the ICBM, is of limited value in realistically evaluating our force capabilities and requirements. Nonetheless, the Soviets do have a capability to promptly threaten our land based elements while we do not possess a comparable prompt retaliatory capability. Peacekeeper deployment will resolve this disparity.

INCREASED ICBM SURVIVABILITY

Senator LEVIN. Based on your testimony, General Davis, the survivability of our ICBM force in its vulnerable Minuteman silos has increased astoundingly—by 400 percent (from 5 percent to 30 percent)—in just 4 months. What accounts for this happy development? Have we suddenly discovered that Soviet missiles have less yield and are less accurate than we thought they had four months ago, and if so, what new intelligence information leads us to this conclusion? Please provide this to the committee.

General DAVIS. I do not believe that there has been an astounding increase in survivability. [Deleted.]

Considering ICBM survivability in isolation ignores the strategic hurdles that confront the Soviets due to our combined force of SLBMs, bombers and ICBMs—challenges of offense and defense. In isolation, scenarios can be constructed, given sufficient suppositions and assumptions, which reduce the effectiveness of any single element. Strategic reality dictates that such an approach is unnecessarily restrictive.

SOVIET ICBM CAPABILITIES

Senator LEVIN. This committee has received repeated testimony in the past 4 years that the capabilities of Soviet missiles to destroy our Minuteman silos is expected to improve by the end of this decade. Regardless of whether the surviving percentage today is 5 percent or 30 percent, why do you think that this percentage will remain the same in the late 1980's, when MX is deployed in Minuteman silos, as you have testified today? Do we have new intelligence which would contradict the testimony we have received about continually improving Soviet missile capabilities during the 1980s? Please provide this to the committee.

General DAVIS. Intelligence estimates over the past 4 years have been consistent in showing an improved capability of Soviet ICBMs against our minuteman silos. The lower survivability percentages for our ICBMs are based on a complete "ride-out" scenario and do not provide for a range of scenario estimates and potential U.S. responses. As I indicated in my previous response, these lower values have been described as pessimistic.

Placing MX in existing silos does not change the survivability of the silo. However, as I indicated on April 26, 1983, survivability is most certainly a consideration, but it is far from the only, or even the most important, attribute needed to maintain an effective deterrent. The MX would be a stabilizer in our land based force which would contribute to our overall ability to counter the Soviet threat.

SURVIVING WEAPONS

Senator LEVIN. Applying both the 5 percent and 30 percent figures to the hard target kill (HTK) ICBMs we would have in our strategic forces in the late 1980s, with and without MX, and assuming either improvements to the NS-20 guidance systems for the Minuteman III to improve its HTK or upgrading our Minuteman IIIs with the MX AIRS guidance system and 750 Mark 12A warheads to replace a similar number of Mark 12 warheads on 250 Minuteman IIIs (the other 300 already have Mark 12A warheads); also to improve HTK, our HTK ICBM force would look like this:

	Without MX	With MX
Before Soviet attack	1,650 HTK warheads on MM III.	1,000 HTK warheads on MX.
		900 HTK warheads on MM III.
Total	1,650 HTK warheads.	1,900 HTK warheads.
After Soviet attack	1,650 times 5 percent surviving equals 83 surviving HTK warheads.	1,900 HTK times 5 percent surviving equals 95 surviving HTK warheads.

Note: Net gain in surviving HTK warheads with MX deployment—12 warheads at 5 percent survival rate established by AF/DOD testimony on 12/8/82: 1650 times 30 percent surviving equals 495 surviving HTK warheads; 1,900 times 30 percent surviving equals 570 surviving HTK warheads. Net gain in surviving HTK warheads with MX deployment—75 warheads at 30 percent survival rate established by Gen. Gabriel/Davis in testimony on 4/21/83 and 4/26/83.

In even a limited nuclear war, should that be possible, the Soviets will have attacked the United States with between 2,000 and 3,000 warheads. Our own surviving forces, including the bombers and submarines would have thousands of warheads with which to retaliate.

Considering that General Gabriel has testified that the number of Soviet hard targets is more than [deleted] if our ICBMs rode out the Soviet first strike, how can between 12 and 75 more HTK MX warheads really make any real meaningful difference—militarily or politically—in our retaliatory capabilities?

General DAVIS. Senator, your analysis comparing an improved Minuteman III force and a Peacekeeper force is too narrowly focused in a number of key areas.

First, the scenario you describe is but one in a full range of potential scenarios. At least as likely a scenario would be a U.S. prompt retaliatory launch of our strategic forces in response to a Soviet attack. Unlike launch on warning—or even launch under attack—a prompt retaliatory response would be the execution of SIOP forces subsequent to confirmed nuclear attack against the United States and prior to attack completion. For example, in a scenario where the Soviets simultaneously launch their ICBMs and SLBMs, there would be high numbers of SLBM detonations on the continental U.S., and we would have time to positively identify, through independent sensor systems, both the size and the general targets of the ICBM attack. Prior to enduring the full effect, of that attack, our ICBMs could launch a controlled, prompt, retaliation in-kind. Consequently, we would have much higher survivability at the time of launch than the estimates for full ride-out.

Second, the force structure you propose does not fully address the ICBM modernization issues we face today. The President's Commission on Strategic Forces carefully considered improving Minuteman III accuracy to the level of accuracy being developed for Peacekeeper. Such a step would take 2 to 3 years longer than Peacekeeper production, would not redress the perceived imbalance between U.S. and Soviet capabilities, and might result in [deleted]. Further, the Commission questioned the wisdom of placing new guidance systems on 1960s-vintage missiles. They also felt that the Minuteman III missile did not possess the throwweight needed to hedge against Soviet ABM improvements.

Third, there is a very important reason for avoiding an all MK-12A Minuteman force. [Deleted.] [Deleted] an all MK-12A force would severely restrict the versatility and flexibility of our Minuteman III.

Deployment of Peacekeeper in Minuteman silos enhances the likelihood of negotiating a stabilizing and equitable arms control agreement, demonstrates our national will and cohesion to maintain deterrence, promptly redresses the serious U.S./Soviet imbalance in ability to destroy hardened targets, and hedges against unforeseen aging problems in our Minuteman force.

ICBM LAUNCH OPTIONS

Senator LEVIN. Unless we decide to launch on warning or under attack—which most experts think is destabilizing and which you testified on Feb. 23, 1982 was a tactic we should not rely on to solve our ICBM vulnerability problem—how can it be worth $16.6–20 billion (constant fiscal year 1982 dollars/current dollars) to obtain only 12–75 more HTK warheads?

General DAVIS. I did state that launch during an attack is not a tactic to solve the ICBM vulnerability problem, but, more importantly, I also said at that time: "The prompt retaliatory capability of a modernized Triad—particularly silo-based MX—will increase the potential cost to the Soviets of any attempted attack, thus bolstering deterrence." If the prompt retaliatory capability provided by Peacekeeper frustrates Soviet attack planning, the cause of deterrence will be well served. As I have already said, it is unrealistic to assume that Peacekeeper will absorb the entire Soviet attack. As such, the surviving hard target kill warhead figures you quote are pessimistically, and unrealistically, low.

Modernizing the ICBM leg to provide the attributes of Peacekeeper is well worth the cost when one considers that those attributes greatly increase Soviet uncertainties about successfully attacking the United States. As long as our retaliatory policy remains ambiguous, the Soviets can never be certain about the price they will pay for an ill-advised preemptive attack. This uncertainty provided by Peacekeeper, reinforced by the complementary capabilities of U.S. bombers and SLBMs, will ultimately do much to further the cause of deterrence. And that, Senator, is well worth the cost.

SLBM ALERT RATES

Senator LEVIN. General Davis, you testified today that only about one-third of our missile submarine leg of the Triad is survivable and on alert at any time, and that two-thirds of these forces would be destroyed by a Soviet first strike. On

December 8, 1982, Air Force R&D Chief, Lt. Gen. Lawrence Skantze testified as follows about the comparative alert rates of the three legs of our Triad:

> High alert rates and force availability at relatively low operating costs figure that at all times virtually all of the ICBM force (approximately 99 percent) is available for immediate launch. This compares to about 70 percent for SLBMs and 30 percent for bombers.

What explains the great contradiction between your assessment of our missile submarine alert rate (33.3 percent) and that of the Air Force at our hearing just about four months ago (70 percent)?

General DAVIS. About one-third of U.S. SLBM assets are not committed to the SIOP because of major overhaul or extended modifications and maintenance. The remaining two-thirds are committed to the SIOP [deleted].

I agree that there is an apparent contradiction between Lt. Gen. Skantze's testimony and my own. I can only surmise that Gen. Skantze meant to state that 60–70 percent of our SLBMs are committed to the SIOP. As for the SLBM alert rate, I stand by my original testimony.

SLBM RESPONSE TIMING

Senator LEVIN. General Davis, on April 21, 1983, AF Chief of Staff, General Gabriel, testified that the response time for submarine launched ballistic missiles was "prompt enough" to meet U.S. strategic requirements. Today, you said the following:

> The submarine launched ballistic missile, the most survivable today. It reacts nearly as rapidly as a land-based ICBM, but it is nearly invulnerable.

Considering these statements, why does the Air Force consistently understate the prompt hard-target kill capabilities we expect to deploy on our Trident submarines—in the form of Trident II (D-5) missiles—beginnning in 1987?

General DAVIS. I would certainly agree that, for the role assigned to the SSBN fleet, it reacts in a fashion "prompt enough," and my statements should not be interpreted as underestimating the contribution of that system. I believe, however, that the SLBM contribution, just as that of ICBMs and bombers, is best evaluated in concert. Our ICMBs will arrive at their targets approximately [deleted]. Therefore, while our submarine-based systems are certainly our most survivable element, they are not as prompt as our ICBMs. The new D-5 missile is projected to significantly improve the accuracy of our sea-based forces allowing them to place at risk a portion of Soviet hard targets not currently threatened by our SLBMs. At this point, however, it is important to recognize that the D-5 is still in the early stages of development and represents a technology which cannot be fielded before late 1989. As such, it is unreasonable to compare D-5 against Peacekeeper.

I believe the Report of the President's Commission on Strategic Forces says it quite well: ". . . the prospect of concentrating all of the submarine-launched missiles at sea in a few very large submarines raises some concern. Communication links with submarines, while likely to improve, will still offer problems not present for land-based systems." In a similar vein, the Commission recommended ". . . strongly against adopting a strategic force posture solely on submarines and bombers to the exclusion of ICBM modernization."

PEACEKEEPER VS. TRIDENT II

Senator LEVIN. General Davis, would you agree with the following statements:

100 MX, with 1,000 HTK warheads, will reach full deployment in 1989 and will cost between $16.6B (fiscal year 1982 dollars) and more than $20B (current dollars);

24 Trident II missile and about [deleted] HTK warheads will be deployed on one submarine (the 9th Trident boat) in 1989, at a cost for both missiles and boat of about $2 billion (in fiscal year 1982 dollars).

When deployed, all [deleted] Trident II HTK warheads are survivable in 1989 in the face of a Soviet first strike;

When fully deeployed in 1989, only 50 (5 percent) to 300 (30 percent) MX HTK warheads will survive a Soviet first strike if we choose to ride out the attack and not launch on warning or under attack:

Therefore, for only about ⅛th to ¹⁄₁₀th the cost of the full MX deployment, we can buy more surviving "prompt enough (Gen. Gabriel's quote)" HTK warheads on one Trident II-equipped with submarine, in the 5 percent surviving case (AF/DOD estimate), and almost as many on one such submarine, in the 30 percent surviving case (Gen. Davis), than we would obtain if we deployed 100 MX in Minuteman silos. Thus, MX costs 8–10 times as much as one Trident II boat, and we get less surviving warheads with it.

Please outline in detail any factual disagreements with any of these statements.

General **Davis**. While I am not an authority on these costs, I would ask that you make a fair comparison between the two systems. First, the cost you reference ($2B) represents the cost of boat construction but does not include missile expenses. Second, when we quote ICBM costs, they include procurement, research and development, *and* 12½ years of operation/maintenance (including personnel). Third, virtually all Peacekeeper, like our other ICBMs, will be within [deleted] of their targets at all times. A total of 72 D–5s (3 boats) must be procured to keep 24 D–5s in the patrol area capable of timely responses at all times. Finally, your scenario includes many tacit assumptions. First, you assume a generated scenario where all SLBMs are in patrol areas within range of all Soviet ICBM silos. Second, you assume comparable capabilities and disregard the time-on-target issue which I described in an earlier answer. Finally, you consider only an extremely unlikely scenario. These assumptions would be valid only in a situation where we had many days warning of an impending Soviet attack, and then the NCA decided to completely absorb their full attack before we retaliated. As I pointed out earlier, I do not consider this scenario to be credible, and I think you will agree that we must be prepared for any eventuality.

I do not consider Trident II and Peacekeeper to be competitors for the same mission. Peacekeeper and Trident II will serve as excellent complements to each other in the Triad of the future. Peacekeeper (with 1000 RRVs by 1989) will threaten prompt retaliatory response against time-urgent, superhand targets such as ICBM silos and launch control centers. The Trident II (D–5) will provide us with a critically needed, endurable capability against hard targets not provided by the Poseidon C–4. Both are needed.

PEACEKEEPER/TRIDENT COST

Senator **Levin**. For another $2 billion, in 1990, we will deliver our second Trident II equipped submarine (the 10th Trident boat). With its about [deleted] prompt enough HTK warheads, and those of the first Trident II boat, is it not true that we will have deployed within only one year of full MX deployment more surviving prompt HTK warheads than would survive a Soviet first strike against our ICBMs under your most optimistic, 30 percent surviving rate—[deleted] compared to 300 MX, and we would have done so for only ¼th to ⅕th the cost of the MX—$4 billion compared with $16.6–20 billion? Thus MX costs 4–5 times as much as two Trident II boats, and [deleted] surviving warheads with it.

General **Davis**. I disagree with the entire premise of this question. First, as I mentioned earlier, the cost you cite for Trident II does not include missile costs or complete system operation and support costs. Second, it takes more than two boats to maintain a continuous, alert commitment. Third, using the prompt retaliatory launch tactic I described earlier, ICBMs would enjoy a higher prelaunch surivivability than you have stated. Fourth, you cannot equate Peacekeeper and Trident II (D–5) capabilities without considering [deleted] and the fact that Peacekeeper is essentially ready for deployment while the D–5 is little more than a concept. Finally, and most importantly, Peacekeeper and Trident II are two badly needed and complementary systems. Together they will provide a modernized capability against the entire target base, throughout the spectrum of conflict.

SURVIVING HARD TARGET WEAPONS

Senator **Levin**. General Davis, do you agree with this chart depicting surviving hard target kill weapons (prompt and overall) which the United States has now and would have in 1989 and 1992, assuming a first strike by the Soviets against our Triad and assuming further improvements to the Minuteman III NS-20 guidance system, and with and without MX deployment? In those categories with which you disagree, please provide your numbers.

(Use about for all. In each case MX only adds [deleted] surviving RVs or v-small percent of surviving forces.)

		TODAY	89 (ALCMs)	92 (TRIDENT II)
Surviving Hard Target Kill Weapons	W/O M-X	45 MMIII 500 bombs 0 ALCM 545	DELETED MMIII bombs ALCM TRI II	DELETED MMIII bombs ALCM TRI II
	W M-X	Same as W/O M-X	DELETED	DELETED
Surviving Prompt Hard Target Kill Weapons	W/O M-X	45 MMIII	DELETED TRI MM III	DELETED MM III TRI II
	W M-X	Same as W/O M-X	DELETED M-X	M-X

Assuming a first strike on our Triad, and assuming further improvements to NS-20 guidance system on MM III's.

General Davis. Senator, without further information on your scenario and assumptions, I cannot provide a full answer. Your answer appears to be a pessimistic approximation of the absolute worst case for ICBMs—Soviets achieve best projected accuracy, their attack proceeds exactly as planned, and the NCA elects to accept the full weight of the Soviet attack before launching a retaliatory strike. Under other scenarios, which are at least as likely, even as late as 1992, Peacekeeper would contribute over [deleted].

Let me emphasize again that each Triad element makes a unique contribution to our overall deterrent posture. Although bombers provide invaluable flexibility against a wide range of targets (including hardenel military targets) they are not prompt. Our SLBM force is survivable, but their promptness is dependent upon available connectivity and their position when the launch order is received. Additionally, they do not possess the combination of accuracy and yield required to threaten the entire range of hardened Soviet targets. As with other longer-range modernization programs (e.g., the Advanced Technology Bomber), the D-5 represents promising technologies that must be pursued. However, it is still a "paper" system, and extensive research and development will be required to overcome existing technological uncertainties.

Peacekeeper deployment is the fastest and most sensible solution to our destabilizing lack of prompt and credible retaliatory capability. Working in concert with projected improvements to our other Triad elements, Peacekeeper will insure we have the balance needed to meet our long-term deterrent needs.

REQUIREMENTS IMPOSED BY SCOWCROFT COMMISSION

Senator Levin. General Fornell, you said the AF estimated how long it would take to develop and deploy a small ICBM based on the "requirements" imposed by the Scowcroft Commission. What were those requirements—in detail?

General Fornell. The requirements or characteristics of a small ICBM imposed by the report of the President's Commission on Strategic Forces (page 15) are as follows:

The missile should contain a single warhead,

It should weigh about 15 tons,

It should be hardened against nuclear effects.

It should have accuracy and yield to put Soviet hard targets at risk,

It should be capable of being based in a variety of basing models i.e. silos and mobile launchers,

It should be ready for full scale development beginning in 1987 and ready for initial operating capability in the early 1990s.

EARLIEST ESTIMATE IOC

Senator **Levin**. What was the earliest estimate for the initial operational capability (IOC) of a small ICBM that was given by any of the contractors consulted by the Scowcroft Commission?

General **Fornell**. The Boeing Company, General Dynamics/Convair and Martin-Marietta all briefed small missile proposals. Each proposal was different and provided varying technical approaches to fulfill perceived requirements of a small ICBM. Boeing estimated a goal of 1989–1990 for an IOC. General Dynamics proposed a mid-1990 IOC. The Martin-Marietta proposal for IOC was at the end of seven years from contract go-ahead; if contracts were let in 1983, the IOC would be in 1990. However, realistic IOC's for any deployment of the small ICBM are dependent upon the capabilities required of such a missile. These variables include range requirements, accuracy and desired guidance systems, the basing mode (or modes) selected and types of payloads, (to include possible penetration aids) that might be necessary for such a system to be operationally effective.

AIRS SYSTEM

Senator **Levin**. General Fornell, you said that, if we were to upgrade our present Minuteman III force with the MX's Advanced Inertial Reference System (AIRS) guidance system, that it would require special adaptation and design of the AIRS for it to be compatible with our Minuteman III. You said this task would require two years, which is why the IOC for Minuteman III with AIRS is 1988, compared to the MX IOC of late, 1986.

Is it not true that initial testing of the AIRS system for deployment of the MX will be accomplished by flying the system on a Minuteman III missile? If so, doesn't that mean that the AIRS system will have to be compatible with Minuteman III just to be able to flight test it for MX? If so, why should it require an additional 2 years to deploy to adapt it to other Minuteman III missiles?

General **Fornell**. There are no plans to initially fly the Advanced Inertial Reference Sphere (AIRS) on Minuteman III. An advanced development prototype AIRS was flown on a Minuteman III missile performance measurement system flight in July 1976. The purpose for AIRS on this mission was not to guide the missile but to demonstrate feasibility in the flight environment prior to continuing development and to measure the performance of the Minuteman III NS-20 guidance. The mission was a success.

The adaptation of AIRS to Minuteman III would require the development of a new computer, software, and a repackaging of the AIRS guidance. The engineering design and testing of AIRS for Minuteman III would take 2 years. Production of the AIRS takes 32–33 months. With these developments and schedule constraints the IOC for an improved Minuteman III would be late 1988.

MEETING THE REQUIREMENT

Senator **Levin**. General Fornell, on December 8, 1982, your superior in the AF's Research and Development division, Lt. Gen. Lawrence Skantze, chief of the AF R&D, testified as follows:

> For deterrence to be effective, several things are necessary. First, our forces must demonstrate that they could survive a preemptive attack and respond in a deliberate and controlled manner with sufficient strength to threaten losses that would outweigh any potential gains an adversary could expect from his attack.

How does deployment of MX in non-survivable silos, of which only 5 percent would survive a Soviet preemptive attack according to General Skantze, meet this requirement? How can only 50 surviving MX warheads sufficiently threaten the Soviets to deter them?

General **Fornell**. We have developed a strategic Triad of bombers, ICBMs, and SLBMs to ensure that under all conditions a sufficient force will survive to inflict unacceptable damage on the Soviets. For years ICBMs were the ideal strategic weapons. They were invulnerable, prompt, accurate, provided positive command and control, and had high alert rates. Soviet advances, both in the accuracy of their ICBMs and hardening of their assets, have degraded this element of our strategic forces. Deployment of Peacekeeper will enable us to restore our effectiveness against highly valued Soviet hardened assets with prompt retaliation. This fact, coupled with the overall survivability of the Triad, will strengthen our deterrent posture.

Senator **Levin**. General Fornell, in referring to our "strategy for deterrence," General Skantze also said:

> To meet this strategy requires an emphasis on targeting those assets identified as important to Soviet decisionmakers. ICBMs represent one of the strategic assets most valued by the Soviets. They are accorded a special position in Soviet strategy and represent the bulk of Soviet striking power. The capability to threaten these forces in a second strike requires forces which are highly survivable with long endurance. . . .
>
> Elements of U.S. strategic forces, at present, do not have the necessary capability to carry out an effective response against high value Soviet targets under all circumstances. Thus there is compelling need for new systems that incorporate technological advances, are capable of quick response hard target capability, are target flexible, and are designed for long endurance.

How can deployment of MX in non-survivable Minuteman silos meet this requirement for "forces which are highly survivable with long endurance. . . ?"

How is MX "designed for long endurance" if it is being deployed in non-survivable silos? Therefore, how can it meet this "compelling need for new systems" which General Skantze testified are necessary to enable us to meet our strategy for nuclear deterrence?

General **Fornell**. When Peacekeeper is considered in the context of our total strategic Triad, sufficient U.S. forces would survive to mount a retaliatory strike on Soviet assets. Our bombers and ICBMs especially work together to insure mutual survivability. The Soviets would likely attack our bombers with SLBMs and our ICBMs with ICBMs. Because of flight time differences, in a simultaneous Soviet launch of SLBMs and ICBMs, their SLBMs would detonate on U.S. soil about 20 minutes prior to ICBM warhead arrival thus allowing Peacekeeper to launch following verification of the Soviet attack. In the context of the President's strategic modernization program and the report of the Commission on Strategic Forces, the Peacekeeper missile also adds significant capabilities which complement the new small single warhead ICBM. These new mutually supporting ICBM elements of the Triad will be vital contributors to our strategic deterrent posture. Further, even when looking at Peacekeeper in isolation, the total force would only be vulnerable to large scale Soviet attack. There are many limited attack scenarios in which a significant Peacekeeper force would survive. Peacekeeper also has a survivable power supply which would provide for its endurance even if cut off from outside power sources.

SCOWCROFT RECOMMENDATIONS ON MX

Senator **Levin**. Dr. Bundy, in a recent New York Times opinion page article, you are quote critical of the Scowcroft Commission's recommendations on the MX. You summarize by saying:

> The main reason for this recommendation is that a commanding majority of its authors want these first-strike weapons because the Soviet Union has them. Never mind their contribution to instability in crisis; never mind what the Russians will build in reply; never mind what else you could do with $15 billion; never mind the fact that the Russians do not have a true first-strike capability because the window of vulnerability was never open; never mind that Soviet advantages on land are fully matched by our superiority in the air and under water.
>
> Because the Russians do have weapons that can strike first at hard targets, the commission concludes that we must have them, too. When you disentangle all the report's complex language, that is all there is, and the commissioners neglect to tell us that we have plenty of weapons already that can strike hard targets second—our bomber force may be the best system in the world for this legitimate purpose.

Please elaborate on these issues, especially as to what you would expect the Soviet response to be; what else we should do with this money; effects on stability, etc.?

Dr. **Bundy**. I think it clear that the immediate Soviet response to MX will be the parallel Soviet weapon which is now being tested. The notion that going ahead with MX will produce any quick Soviet desire to reduce or eliminate existing Soviet MIRVed systems which are bought and paid for seems to me fanciful. On this point the Scowcroft Commission seems irresponsibly optimistic.

The $15 billion we could save by not building MX should in my view simply be pocketed as a major saving and a contribution to the reduction of the deficits now in prospect for future years, which heavily limit the chance of sustained economic recovery. As for stability, no one can say that a very few MX missiles would be seriously destabilizing. But it is clear that if the system is ever to have the large-scale effect on Soviet deployments which the Scowcroft Commission desires and hopes for, it will have to be built in much larger numbers than are now proposed. Once we get going with it there will be heavy pressure to keep going to higher levels. The largest danger in the plan for 100 MX is that it may lead on to more.

USING MX AS A TRADEOFF

Senator Levin. In your testimony, you said you would keep the MX alive to trade it off for the new Soviet ICBM's being developed. How would you do this—"keep it alive"—without deploying it? Are you saying just keep MX in R&D status at some low funding level? Would you recommend flight testing the missile in this "keep it alive" status?

Dr. Bundy. It would not take long to find out whether it is possible to trade MX against its Soviet counterpart in some form of no-new-MIRV agreement. To keep the program alive for the necessary weeks or months would not be difficult and would not require flight-testing. The first requirement here is simply that the Administration should decide to seek such an agreement, and I see no current prospect of any such decision.

SPENDING BUDGET FOR MX

Senator Levin. Considering all the other strategic programs we have underway: ALCMs-2 generations, Trident II, Stealth bomber, B-1, SLCMs, and considering MX would add only a few more surviving prompt HTK weapons so (95 percent destroyed in Soviet first strike) how much more national will and arms control leverage does MX really add? If the Soviets aren't convinced of our national will by our spending $140–$150 billion over the next 5 years on all these other strategic programs, why should another $16 billion for MX convince them? You downplay the military reasons for MX, so why should it add any leverage for arms control on top of the leverage of all these other programs? It would seem that we wouldn't be demonstrating national will to the Soviets but national waste of scarce defense dollars which could be better spent militarily. Do you agree?

Dr. Bundy. I strongly agree with this conclusion.

VULNERABLE SILOS

Senator Levin. Since the MX will be deployed in vulnerable silos, and the Scowcroft Commission admits they will be vulnerable silos, is it not true that they only can be used effectively if we launch a first strike, or if we launch them after we have received unambiguous warning or an attack or after Soviet warheads already have begun hitting the United States.

If we do not launch first, or launch on warning or under attack, our MX will be destroyed and thus be useless to us for any type of counterattack. Doesn't that mean we are adopting either a dangerous first strike policy or a risky launch on warning or under attack policy?

Dr. Bundy. I do not believe we are planning a first-strike policy, but I do believe that there are some who think MX will add to deterrence in Europe because its power and accuracy might make it a good weapon if the President ever decided to respond to major aggression in Europe by using an American nuclear weapon, and I agree that any vulnerable system with the capabilities of MX becomes a tempting target if nuclear war is ever judged to be imminent by the Soviet Union. I do think that the system will strengthen pressure for a policy of launch on warning, or launch under attack, and I think the testimony of senior officials in the Pentagon makes that danger clear.

FIRST LAUNCH APPROACH

Senator Levin. If we do not launch first or launch on warning or under attack, there will not be enough MX missiles remaining to strike back in any limited or controlled way at all the remaining—or even many of the remaining—

Soviet hard targets, the alleged justification for the MX by the Scowcroft Commission, is that not so?

Dr. **Bundy**. It is true that if we do not launch first or launch before the missiles are destroyed, MX will not be able to hit many Soviet hard targets.

STRATEGIC NUCLEAR WAR SCENARIOS

Senator **Levin**. Let me outline a typical strategic nuclear war scenario for you: 1000's of Soviet RVs have struck the United States and, in addition to destroying our ICBM silos, bomber bases and submarine ports, have killed between 10-20 million Americans. The United States, in response, has launched its few surviving ICBM weapons against some Soviet hard targets and hundreds, if not thousands of submarine launched warheads against soft military targets. More than a hundred U.S. bombers are winging their way toward the U.S.S.R with 1000s of bombs and cruise missiles capable of striking hard targets. Nuclear explosions are going off all over the United States and the Soviet Union between the first 30 minutes when the Soviet warheads hit and the 30 minutes to 2-4 hours when our first ICBM and submarine warheads retaliate. Mushroom clouds and radiation befoul the atmosphere and millions of Russians are dying just as fast as millions of Americans.

In all the chaos and confusion of this hell on earth, do you really think that the leader of the Soviet Union is going to rationally pick up the telephone or whatever hot line is left and call whatever leader of the United States he can find who might have survived his first attack—all after the first 30 minutes to 2-4 hours of the war and ask him to surrender and call off his bombers because unless we do, he will hit us again with more ICBMs?

Dr. **Bundy**. All strategic nuclear war scenarios strike me as nothing more than estimates based on an inevitable lack of evidence. The scenario here presented is typical, and I think it is indeed hard to imagine the conversation you describe or to suppose that either side could have any confidence whatever in what the other might actually do in such a horrifying situation.

SOVIET TARGETS IN UNITED STATES

Senator **Levin**. If a Soviet leader wanted to make such a threat, what additional targets could he hit in the United States to obtain some military or political benefit from without striking any targets located close enough to cities to threaten both sides with the mutual suicide, counter city exchange which is the ultimate, mutually assured destruction threat under which we and the Soviets both live? He already has struck our bomber bases, sub ports and missile silos. What other hard targets in the United States are left for him to strike in a limited, controlled way?

Dr. **Bundy**. As the question implies, the opportunities open to a Soviet leader in such a situation are not impressive—without some extraordinary and unpredictable change on both sides, it appears that in this situation both sides would have reached the point of no return.

Senator **Levin**. If he can exert further blackmail or military advantage from striking our unhardened military facilities for conventional forces, or key industries, why couldn't we gain the same benefits from hitting his, during those first hours of chaos? And we certainly do not need MX ICBM warheads to do that. We can use sub launched RVs and certainly do not need the MX for that, correct?

Dr. **Bundy**. We do not need the MX for the particular scenario here under discussion.

HARD TARGET KILL CAPABILITIES

Senator **Levin**. Before he joined the Commission, the former Secretary of Defense, Dr. Harold Brown, discussed the issue of "prompt" hard target kill capability this way:

> There are many, many different alternatives that we can take under those circumstances if the Soviets were to shoot just at our Minuteman, assuming that we didn't fire back before they were destroyed. In that case we could hit their urban industrial complexes, we could hit their conventional military forces, we could hit their nuclear forces. The only thing that is missing from the scenario is the ability to hit their strategic ICBMs within half an hour or an hour instead of 10 hours. I submit that that is not a central issue in the midst of a catastrophic thermonuclear war.

Isn't it true this still remains the case today, thus obviating the need for the MX?

Dr. **Bundy**. I agree with this quotation from Harold Brown.

Senator **Levin**. Since the military utility of prompt hard target kill missiles is extremely in doubt, and since their political utility either during such a war or in international crises must therefore be discounted, doesn't the Administration's decision to deploy MX really boil down to it just wanting to have a missile as big as some of the newer Soviet missiles, regardless of whether we need those missiles because of all our other forces and the Minuteman IIIs themselves. Doesn't it mean we are trying to match Soviet ICBM capabilities not because we need to, with all our other systems, but because they are not ICBM's? Aren't we playing a foolish game of one-upmanship with the ICBM's, which not only is not needed for military or diplomatic purposes and is not very useful for them, but which only drives the arms race even higher and increases, rather than decreases, nuclear instability?

Dr. **Bundy**. I think that the desire to "catch up" in the specific field of ICBMs is indeed a powerful driving force in the campaign for MX, and I further agree that it does not make sense to think of our strategic systems only in terms of ICBM competition. This is an error which the President and Secretary Weinberger have repeatedly made in public presentations, and it is fundamentally misleading because it compares three-quarters of Soviet strategic strength against one quarter-of our own. We should indeed avoid a "foolish game of one-upmanship" with the ICBMs, and MX would drive us in the direction of such a game.

Senator **Levin**. Deploying MX in super-hard silos is, of course, not a new idea. You flatly rejected this approach in 1981. Here is testimony before this Committee on that topic;

"I am sure it is no surpise to this committee when I say that I was disappointed at the solution that is proposed to the MX basing problem. I believe—and I testified to this committee many times—that the Minuteman vulnerability problem is real. But the proposed solution is unacceptable, in my judgment. I have read several reports describing why it is a good solution. The burden of the argument is that by superhardening the silos you make the problem of destroying them harder for the Soviets—you require them to develop a new guidance system and therefore you are buying time.

"I submit that is simply not correct, that the Soviets presently have missiles which are capable of destroying those silos. All they have to do is mate their large, single RV warheads with the accuracy that they have presently demonstrated on the missiles, and they have a super-hard silo-buster.

"I make that statement irrespective of how hard we make our silos. The technical issue of whether they can be made harder, 3,000, 5,000, or 10,000 psi. is an interesting technical issue but it is irrelevant. The Soviets now have the capability where they can deliver their missiles with sufficient yield and sufficient accuracy so that the silo will be encompassed within the crater of the fireball, in which case hardness is quite irrelevant.

"So, I believe that superhard silos is not a solution to the problem. At most, it requires the Soviets to target those relatively few silos with single RV missiles rather than multiple RV missiles. Superhardening could increase the cost to the Soviets attacking our silos if we did it with many, many silos, if we did it with thousands of them. But doing it with 36 or 50 or 100 silos has a negligible impact on the Soviet war-planner.

"I made a strong statement about that because I believe that is an accurate assessment of the problem.

"My recommendation to the Congress is simple, which is, that you reject that proposal."

Hardened silos were not a solution in your view. Why then are unhardened silos, as the Commission is recommending?

Dr. **Perry**. Deploying missiles in fixed silos, hardened or unhardened, does not solve the vulnerability problem. That can only be solved by a diversity of deployment methods, as recommended by the Commission.

Senator **Levin**. Dr. Perry, the Commission emphasizes that reducing the value of nuclear targets by moving away from large, multi-warhead missile to small, single-warhead missiles is stablizing and promotes arms control. By your own definition then, doesn't deployment of a 10-warhead, large MX missile contradict the Commission's own central thesis and desired goal? Isn't such a deployment in 100 vulnerable silos destabilizing, especially in a crisis between the two superpowers? Also Dr. Perry, on October 14, 1981, in the San Jose Mercury News, you wrote:

So, it is pertinent to ask whether the proposed new programs increase our force stability, that is, whether they reduce the risk of accidental war. . . . Unfortunately, the silo-based MX has some potential for *decreasing* stability.

An MX missile will be substantially more threatening than any other single weapon in our force, but at the same time, it will be an easy target for a single warhead SS-18 or SS-19. This combination of high effectiveness and high vulnerability tends to be destabilizing during a crisis period.

At that time, you were talking about the Administration's original plan to base 36-40 MX's in Minuteman or Titan silos, which were to be hardened. Wouldn't deployment of more than twice as many MX—100 in unhardened, even less survivable silos as you are proposing, be even more destabilizing?

Dr. PERRY. By itself, the deployment of MX missiles silos would be destabilizing, just as the deployment of SS-18's and SS-19's in silos is destabilizing. Therefore, it is important to move toward single warhead missiles and to encourage the Soviets to do the same. This would move us—in time—to a more stabilized force.

Senator LEVIN. On February 13, 1981, you were quoted as follows:

"The worst of all possible solutions," according to Perry, would be to place the new MX missiles in the old silos that now hold Minuteman III missiles. This, too, is being considered by the new Administration. Perry thinks it would do nothing to solve the problem of missile vulnerability, but would increase the Soviets' interest in striking first in a nuclear war.

It would probably force the United States to adopt a policy of "launch on warning," in which our missiles would be fired after military radars had spotted something resembling a nuclear attack. Perry says he cannot even discuss this option "without breaking into tears." Fundamentally, it "amounts to turning over to a computer the decision to start World War III." Perry says his enthusiasm for electronics does not extend that far."

Why don't these statements apply as well to the Scowcroft Commission recommendation to deploy MX in nonsurvivable Minuteman silos?

Dr. PERRY. I remain totally opposed to adopting a "launch-on-warning" policy. There is a danger we would adopt a launch-on-warning policy if our deferrent force depended on Minutemen in silos, or MX in silos. Therefore, it is crucial that we keep our SLBM and bomber forces strong, and move our land-based missiles to single warhead missiles as soon as practical.

Senator LEVIN. You also said the following on November 13, 1981:

"My concern is that if we had this very accurate, very threatening missile in unprotected silos, and if they do not go to a survivable system themselves . . . that simply increases the hair trigger . . . on both sides.

"I agonized over that and said on balance I would not go ahead with that [MX in silos] because I don't believe we will come up with a survivable basing mode that is acceptable.

"Since I am pessimistic that we will get a basing mode that is both survivable and acceptable, I am opposed to putting a weapon that lethal in an unsurvivable mode, for reasons I have described in terms of hair triggering the alert."

In light of this statement, how can you support the Scowcroft Commission recommendation?

Aren't you contradicting your previous positions?

Dr. PERRY. Despite my pessimism in 1981, it now seems likely to me that the single warhead missile will be politically acceptable. And it has an acceptable degree of survivability, especially when viewed in combination with the bomber force.

Senator LEVIN. Is deployment of a survivable strategic weapons system considered stabilizing, especially in a crisis? Is the converse of that true—that deployment of a non-survivable strategic weapons system is destabilizing because whichever side has it will be under a great amount of pressure to shoot first in a crisis for fear of losing his forces to an adversary's attack?

Dr. PERRY. By itself, the deployment of MX missiles in silos would be destabilizing, just as the deployment of SS-18's and SS-19's in silos is destabilizing. Therefore, it is important to move toward single warhead missiles and to encourage the Soviets to do the same. This would move us—in time—to a more stabilized force.

Senator LEVIN. Dr. Perry, the Commission Report, says to sustain deterrence, the US has to show a commitment to do what is necessary to maintain/modernize its nuclear forces and demonstrate the political will to bear the political and economic costs of that. Don't we do that with the Stealth bomber, B-1, two types of cruise missiles, Trident I and II; possibly a Minuteman III upgrade? How much is enough, as you would say? Also, if something has to go, after the B–1, what priorities would you assign for cuts in these?

Dr. PERRY. I would not be in favor of eliminating the Trident I and Stealth programs, but I believe that the IOC of either could be stretched. That would have the effect of reducing budgets the next few years, if this were necessary.

Senator LEVIN. The Administration also justifies MX by saying it is needed for arms control leverage over the Soviets. You yourself support MX for this reason.

Considering the other strategic weapons programs we have under development and deployment, which do you think the Soviets view as a greater military threat, the MX with its prompt hard target kill warheads or our cruise missile program?

Dr. PERRY. I don't have reliable information on the Soviets relative concern on the MX and cruise missile. My estimate is that of the programs we now have under development they regard the cruise missile as their most serious military threat, closely followed by the MX.

Senator LEVIN. How can a nonsurvivable system provide leverage over the Soviets in arms control negotiations? Since much of it can be destroyed in a first strike, why should the Soviets fear it—what threat does it pose to their own forces which would make them view their own forces with less regard and thus make them willing to negotiate some of them away?

Dr. PERRY. The Soviets' regard for large land-based ICBMs can be inferred from their own emphasis on these weapons.

Senator LEVIN. If the Soviets fear ALCMs more than MX, doesn't that mean they are more of an incentive for them to negotiate—that they represent more leverage for arms control? Doesn't that mean that we would increase the arms control leverage over the Soviets by deploying more ALCM's instead of MX?

Why don't ALCM, B–1, ATB, Trident II all provide sufficient leverage over the Soviets for arms control—they all are probably more survivable than MX and thus probably threaten the Soviets more than a non-survivable MX?

Dr. PERRY. I believe that an appropriate arms control strategy for the United States would be to offer to reduce our advantage in bombers/ALCM's if the Soviets reduced their advantage in ICBM's. It is not clear, however, that such an offer would be accepted by the Soviets.

Senator LEVIN. In the chaos and confusion of a strategic nuclear war, do you think there really is any meaningful military and political benefit from our having the capability to destroy Soviet hard targets in retaliation within 30 minutes by ICBM's, as opposed to within 2–4 hours or less by sub-launched missile warheads or 8–10 hours by bomber weapons?

Dr. PERRY. Probably no unique military benefit; possibly significant political benefit.

Senator LEVIN. Dr. Perry, considering all the delays in the MX program, especially in flight testing due to the Hart-Tower amendment, the IOC of MX in all likelihood has slipped well beyond December 1986. With IOC in 1987, full deployment will not be complete before 1988. Even if upgrading Minuteman III takes 2–3 years longer than MX production, that puts it in the 1989 time frame.

The Commission calls for full scale engineering development of a small ICBM to begin in 1987, with IOC in the early 1990's. You have said it could be as early as 1989.

Considering the late full deployment of MX, where is its great advantage in deployment time over upgrading Minuteman IIIs?

Why should we spend $14–$17 billion on a missile which will not be fully deployed until just 3–4 years before the small mobile becomes operational

Dr. PERRY. In order for the upgrading of MM III to have long-term utility, it would be necessary to replace the solid fuel engines (the fuels are deteriorating) as well as the guidance system, and to modernize the command and control system. It is not at all clear to me that such extensive changes would offer any real cost savings over completing the MX program.

Senator LEVIN. If the silos are vulnerable, the number of MX RV's surviving a Soviet first strike could be as low as 50. The Soviets would have that theoretical capability without spending much more money on their present ICBM's. We will have spent $14–$17 billion for some 50 surviving, prompt hard-target kill RV's with which to retaliate.

Why isn't that an incredible waste of money with almost no payoff? Doesn't the cost-exchange ratio overwhelmingly favor the Soviets in this case?

Dr. PERRY. The cost-exchange ratio favors the side making a surprise attack when both sides have MIRV's. That is the primary reason for wanting both sides to go to single warhead missiles. The Commission's recommendations were intended to lead to that result.

Senator LEVIN. You also testified that:

"Certainly if I were not proceeding with an MX program, there is no doubt in my mind as to how I would proceed on Trident II. I would go all out in that effort.

You know from earlier testimony I preferred an MX solution, but my preference for the MX solution was contingent on its being in a survivable basing. I have no enthusiasm for an MX system which is not in a survivable basing."

Considering this testimony, how can you support the Commission's recommendation to deploy MX in non-survivable Minuteman silos?

Why shouldn't we reject the Commission's recommendation on the basis of your past testimony, which urged rejection of MX deployment in silos?

Dr. PERRY. MX deployed in silos is not in itself survivable. Therefore I support that deployment only if it is a part of a broader program which in aggregate provides survivability.

Senator LEVIN. Your colleague, Secretary of Defense Dr. Harold Brown, discussed the "prompt" hard target kill issue this way:

"There are many, many different alternatives that we can take under those circumstances if the Soviets were to shoot just at our Minuteman, assuming that we didn't fire back before they were destroyed. In that case we could hit their urban industrial complexes, we could hit their conventional military forces, we could hit their nuclear forces. The only thing that is missing from this scenario is the ability to hit their strategic ICBM's within half an hour or an hour instead of 10 hours. I submiit that that is not a central issue in the midst of a catastrophic thermonuclear war."

Isn't it true this still remains the case today, thus obviating the need for the MX?

Dr. PERRY. I believe Dr. Brown's testimony is still valid today, but I do not believe that it obviates the need for MX, nor does he believe that.

Senator LEVIN. Since the military utility of prompt hard target kill missiles is extremely in doubt, and since their political utility either during such a war or in international crises must therefore be discounted, doesn't the Administration's decision to deploy MX really boil down to it just wanting to have a missile as big as some of the newer Soviet missiles, regardless of whether we need those missiles because of all our other forces and the Minuteman III's themselves. Doesn't it mean we are trying to match Soviet ICBM capabilities not because we need to, with all our other systems, but because they are not ICBM's? Aren't we playing a foolish game of one-upsmanship with the ICBM's, which not only is not needed for military or diplomatic purposes and is not very useful for them, but which only drives the arms race even higher and increases, rather than decreases, nuclear instability?

In its report, the Commission refers to the need to deploy MX to "demonstrate U.S. national will and cohesion."

Other reasons it gives for recommending MX deployment all have been contradicted in the recent past by many members of the Commission and several of its key senior counselors. Thus, isn't the "bottom line" of the Commission's recommendation on MX that it is asking the American people to spend $16.6–$20 billion to demonstrate national will for a period of 1–3 years between deployment of MX and deployment of other systems—upgrading Minuteman III to give it more prompt hard target kill capability equal to MX or the already scheduled deployment of of hundreds of hard target kill capable Trident II warheads—which are either less costly or more survivable, or both?

That comes out to about $5–$7 billion per year of national will, at the least—a very expensive price for so little time, wouldn't you agree?

Why do you think, given all the other strategic weapons programs we have underway and given all the other defense and domestic programs the taxpayers have to fund, that this nation can afford such a high price for such small symbolism?

Dr. PERRY. I believe that if the full set of Commission recommendations were followed, including those on arms control, the arms race would be dampened and stability enhanced. That belief is why I support those recommendations.

Senator WARNER. Gentlemen, we thank you very much for your very important contribution to the work of this subcommittee.

The subcommittee is adjourned.

[Whereupon at 12:30 p.m. the subcommittee was adjourned.]

MX MISSILE BASING SYSTEM AND RELATED ISSUES

TUESDAY, MAY 3, 1983

U.S. SENATE,
SUBCOMMITTEE ON STRATEGIC AND
THEATER NUCLEAR FORCES,
COMMITTEE ON ARMED SERVICES,
Washington, D.C.

The subcommittee met in open session, pursuant to notice, at 8:52 a.m., in room SR-222, Russell Senate Office Building, Senator John Warner (chairman) presiding.

Members present: Senators Warner and Thurmond.

Staff present: Frank J. Gaffney, George K. Johnson, Jr., Robert Nichols, David S. Lyles, and Patrick L. Renehan, professional staff members; Brenda K. Hudson, assistant chief clerk; and Karen A. Love, staff assistant.

Also present: Jon Etherton, assistant to Senator Jepsen; Hank Steenstra, assistant to Senator Quayle; and Peter D. Lennon, assistant to Senator Levin.

OPENING STATEMENT BY SENATOR JOHN W. WARNER, CHAIRMAN

Senator WARNER. The subcommittee reconvenes to furnish members of the committee with an opportunity in open and executive session to ask questions on the MX and related matters.

We are charged with the responsibility for R&D activities. The questions not only relate to the MX, but to the Scowcroft Commission report.

We are pleased to have again Dr. Richard DeLauer, Secretary of Defense for R&D, and Lieutenant General Skantze, Deputy Chief of Staff for Air Force R&D.

Good morning, gentlemen. Dr. DeLauer, will you be kind enough to lead off?

STATEMENT OF DR. RICHARD D. DeLAUER, UNDER SECRETARY OF DEFENSE (RESEARCH AND ENGINEERING)

Dr. DELAUER. Thank you, Mr. Chairman.

We welcome the opportunity to come over and throw as much light as possible on a dark situation in regard to the strategic modernization program.

I think it is very important that we explain to the Congress our plans, answer their questions in regard to any uncertainties they have in their mind about the viability of this program and be sure that everyone has the understanding we do of the importance of the program and how we are following up on the direction from the President.

So, I am very happy to be here. I think the best thing is to answer any questions that you might have. I have no other introductory remarks for the record.

Senator **Warner**. General Skantze?

STATEMENT OF LT. GEN. LAWRENCE A. SKANTZE, U.S. AIR FORCE, DEPUTY CHIEF OF STAFF (RESEARCH, DEVELOPMENT, AND ACQUISITION)

General **Skantze**. Thank you, Mr. Chairman.

I am pleased to be here. I would just like to reiterate from a senior Air Force point of view that General Gabriel, General Malley, General Davis, all of us were very impressed by the Commission's report.

We accept the report and recommendations without hesitation. We think it puts a perspective on one's view of the land-based ICBM as a viable leg of the triad which will be a broader cohesive picture than we had seen before and I think all of the recommendations fit together in a pattern that we are pleased to endorse and intend to follow.

Senator **Warner**. Now you can represent that while there may be some varying opinions on the required funding profile, the schedule, which might be obtained, and the like, there is general unanimity within the Department of the Air Force, both from the Secretary's standpoint and the uniform side, that the Scowcroft Commission program not only can be implemented, but should be implemented?

General **Skantze**. That is correct.

Senator **Warner**. Let us review specifically the language of the Scowcroft Commission report and I am going to read from the report dated April 1983, page 21, paragraph 2, ICBM program.

> Engineering design should be initiated now for the single warhead ICBM weighing about 15 tons. The program should lead to the initiation of full-scale development in 1987 and initial operating capability in the early 1990's. Hardened silos and hardened mobile launchers should be investigated now.

Subsequent to the issuance of that report, the White House issued over the signature of the President a national security memorandum, dated April 19, 1983, and unclassified paragraph 6 reads as follows:

> Small ICBM. Initiate immediately the engineering design of the small single warhead ICBM. Strategic and technical consideration warrants such a missile should be ready for full-scale development in 1987, potential deployment in early 1990's.

Dr. DeLauer, as I read these two documents, there is absolute compatibility. That is my interpretation of the two. They are consistent documents.

Dr. **DeLauer**. That is ours also, Mr. Chairman.

Senator **Warner**. The NSDM implements the recommendation as it relates to paragraph 2, page 21, of the Scowcroft report; is that correct?

Dr. **DeLauer**. Yes, sir.

Senator **Warner**. General, do you have a similar interpretation of these two documents?

General **Skantze**. Absolutely, Mr. Chairman. No ambiguity.

Senator **Warner**. Has the Secretary of Defense tasked the Department of the Air Force to carry out paragraph 6 of the April 19, 1983, NSDM?

General **Skantze**. Yes, the directive is in final work. We have also initiated the draft program management directive which will start the small missile work.

In fact, the request for proposal, the initial definition of the request which will go out sometime in the summer to initiate the competition for the small missile, that work is now underway.

Dr. **DeLauer**. Mr. Chairman, to illustrate the fact that there is substance to General Skantze's answer to your question, let me give you some funding profiles that now exist in the 5-year development plan of the Department of Defense for this particular program. These are in 1982 dollars.

Senator **Warner**. It is very important that we further identify the material that you are addressing. This funding profile is of what timeframe?

Dr. **DeLauer**. This is what is in our present plan for fiscal year 1984 to fiscal year 1988.

Senator **Warner**. This present plan as of right now reflects changes incorporated as a result of the Scowcroft Commission and the NSDM?

Dr. **DeLauer**. Yes; that is how they were derived. These were funding profiles presented by the Secretary when he testified in the last few weeks.

Senator **Warner**. You mean before this committee when he testified on the Scowcroft Commission program?

Dr. **DeLauer**. He was asked the question, and I was with him, what the cost of the system was going to be. He gave the overall cost of what is going to be spent on implementing the Scowcroft Commission recommendations.

What I am going to do now is to give you a further detailed breakdown to support the particular issue about the small missile.

Senator **Warner**. Correct.

COST OF DEVELOPMENT AND DESIGN OF SMALL MISSILE

Dr. **DeLauer**. The small missile for the next 3 years, 1984, 1985, 1986, for missile design will have a quarter of a billion dollars each year for the development and design.

There will also be spent $50 million each year for the first 2 years, 1984 and 1985, and $100 million in 1986 for mobility design effort.

In 1987 and in 1988 there is now budgeted $1 billion and $2.8 billion for deployment options. Now, those options are variable, but they are in the budget, depending on how the work that comes out between now and 1987 that is in the directive will be 1987 for deployment.

We thus have in our 5-year plan now, essentially $3.8 billion to permit us to initiate any deployment program that is directed at that time.

I think this is not a program that is underfunded. I think it is one in which we can accomplish what is necessary to fulfill in the directive. It is one that can be proceeded with at deliberate speed.

Senator WARNER. You used the phrase not underfunded. Perhaps we could suggest that it is fully funded, in your judgment, to the extent that the Department of the Air Force and other entities of the Department of Defense can move ahead as rapidly as possible within prudent constraints of fiscal management?

You just don't want to throw money away?

Dr. DELAUER. Yes, sir.

Senator WARNER. You are absorbing as rapidly as the technology permits. My understanding is that the limitation in general on the development of these small missiles is primarily technological in nature. You might elaborate on that.

Dr. DELAUER. The problem with all mobile systems is their accuracy. As a consequence, there is no difference whether it is a small or large missile. It has to do with launch point uncertainty.

The whole question of the small missile is in the mobile deployment option. Effort has to be undertaken to be sure that we can get the accuracy required for hard target capability in the 1990's.

On the other hand, if we deploy a small missile in a fixed location, then the technology that now exists with the MX would be applicable to the small missile.

Now, on the question of the small missile and its mobility as regards the mobile aspects of it, mobility tends to be labor intensive. All mobile systems tend to have high labor content. All our mobile systems do. Our aircraft, our submarines, all are fairly high labor intensive.

One of the technological challenges facing us in the next few years is how can we handle that particular problem, both from the security standpoint and essentially from the standpoint of maintaining a mobile system, we need to reduce the number of people that is necessary to operate the weapon system.

Every one we can eliminate, when you figure a 20-year lifetime of the weapon system, is money in the bank. So, those are the challenges facing us.

Senator WARNER. One last document, gentlemen. I am referring to a letter dated April 29, 1983, from Senators Charles Percy, William S. Cohen and Sam Nunn addressed to the President.

[The letter follows:]

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, D.C., April 29, 1983.

The PRESIDENT,
The White House,
Washington, D.C.

DEAR MR. PRESIDENT: We have carefully studied the report of your Commission on Strategic Forces and find it to be a valuable contribution to the national debate on U.S. strategic force posture and arms control policy. Your establishment of this bi-partisan Commission and your decision to endorse its recommendations reflect your sincere and continuing commitment to a strong national defense.

We believe the Commission's report contains the elements necessary to move the United States toward a posture in which force modernization and arms control can produce a more stable world. In particular, we see much merit in the Commission's recommendations to work vigorously toward development and deployment of systems which are collectively more survivable and individually less valuable as targets for a would-be attacker. We fully agree with the Commission s emphasis on a new direction in arms control as an essential component in its recommended program.

We are concerned, however, that the Administration has not responded more fully to the arms control recommendations put forward by the Commission. General Scowcroft has testified that the current U.S. START proposal is "not fully compatible" with the Commission's recommendations. Noting that the U.S. proposal would, if accepted, increase rather than decrease the existing warhead-to-launcher ratio, General Scowcroft has called on the Administration to eliminate its proposed ceiling on ICBM and SLBM launchers, as well as the associated sub-limits on specific ICBM types. However, the Administration has yet to indicate what, if any, modifications will be made in our START proposal.

The present debate in the United States provides an opportunity to develop a widely supported, long-term framework for arms control and weapons modernization—a policy that would put the United States in a position to move forward resolutely on strategic force improvements, while giving the Soviet Union strong incentives to bargain earnestly in ongoing arms reduction negotiations.

Toward this end, we recommend that you announce a firm commitment to the following:

A reformulation of the U.S. START position to incorporate the recommendations of the Scowcroft Commission.

A proposal in the appropriate arms control context that the Soviet Union and the United States should adhere to the principle of a guaranteed mutual build-down of nuclear forces in which each country would eliminate from its operational inventory two nuclear warheads for each one newly deployed. This agreement would ultimately be linked to warhead ceilings established in the relevant negotiations, and would be subject to mutually agreed procedures and verification.

An immediate start on research and development of a new, small, single-warhead ICBM, with an assurance that the program will retain a high priority despite probable constraints in the overall defense budget.

In accordance with your request in your April 19, 1983, statement that General Scowcroft have a continuing role in shaping arms control policy, we also urge you to consider establishing a new, bi-partisan arms control panel to advise you on implementating the Commission's arms control recommendations. Establishing such a body would confirm your commitment to the formulation and maintenance of a durable framework for U.S. policy in this area. It would also underscore to our allies and adversaries the continuity of U.S. arms control policy beyond any one Administration.

These proposals would meet the essential concerns and recommendations of the Scowcroft Commission. Revising the U.S. START position and proposing the build-down concept as a mechanism for early arms reductions could give impetus to U.S. arms control efforts and would constitute evidence of U.S. resolve to encourage stability in weapons modernization decisions. The Commission indicates in its report that the build-down concept is consistent with its recommendations. The build-down concept has attracted support from such experts as: Lt. General Kelly Burke, who headed the MX development program as Air Force Deputy Chief of Staff for Research and Development in your Administration; General David Jones, former Chairman of the Joint Chiefs of Staff; and the present and previous Under Secretaries of Defense for Research and Engineering, Dr. Richard DeLauer and Dr. William Perry. In addition, a resolution supporting the build-down concept has already attracted 45 co-sponsors in the Senate.

Mr. President, the Scowcroft Commission Report and testimony before the Armed Services Committee make clear that, without effective arms control to restrain the threat, there is no satisfactory solution to the problem of land-based missile vulnerability. Unless we achieve steady progress toward reducing the number of ballistic missile warheads on both sides, the survivability of MX and the single-warhead missile will remain in doubt. For that reason, we believe that explorations should begin at once to determine whether there is any reasonable prospect of agreement with the Soviets to move toward the kind of long-term posture outlined in your Commission's report.

Soviet reaction to the build-down proposal would provide a crucial indication of their willingness to scale down total warhead inventories to levels compatible with ICBM survivability. At the same time, continuing research and development on an upgraded Minuteman III force would provide useful flexibility should developments in these talks make it unnecessary or unwise to field the full MX component.

In sum, Mr. President, our proposed approach would provide a means of immediately implementing the recommendations of the Scowcroft Commission. We believe it would attract wide bi-partisan Congressional and public support for a strong national defense and a viable arms reduction policy.

Before we reach a decision on the critical question of opening the production line for the MX missile, we would like an expression of your opinion on the approach we have outlined. If Congress decides to proceed with MX production, it is our opinion that the eventual number of MX missiles to be deployed should be contingent on arms control developments.

After you have had an opportunity to review our recommendations, we would like to meet with you personally to discuss these suggestions.

Sincerely,

WILLIAM S. COHEN,
U.S. Senator.

SAM NUNN,
U.S. Senator.

CHARLES H. PERCY,
U.S. Senator.

Senator WARNER. On the second page there is the following recommendation—I read two paragraphs:

> Toward this end we recommend you announce a firm commitment to the following: . . .
>
> An immediate start on research and development of a new, small, single-warhead ICBM, with an assurance that the program will retain a high priority despite probable contraints in the overall defense budget.

What you have stated to the subcommittee this morning, in my judgment, is consistent with that recommendation.

Do you concur?

Dr. DELAUER. Yes, sir.

Senator WARNER. General Skantze?

General SKANTZE. Yes. I would like to point out that we would hope to get requests for proposals on the street this summer. We would expect to see three or four aerospace companies compete for the small mobile missile system.

We would also expect to initiate competition for a hardened transporter. We would go through a period where we defined preliminary requirements, we would then receive proposals from which we might pick two, we would keep the contractors working on the complete definition of the missile configuration and then move into full-scale development as rapidly as we can.

Senator WARNER. Senator Thurmond?

Senator THURMOND. Thank you very much, Mr. Chairman.

Dr. DeLauer and General Skantze, it is a pleasure to have you gentlemen here to give testimony concerning our strategic nuclear forces. This subcommittee has received testimony in support of and opposed to the recommendations in the report of the President's Commission on strategic forces.

The subcommittee chairman, Senator Warner, has done a superb job to insure that both sides of the argument have been heard and I am grateful to him for the time and effort he has put in.

Dr. DeLauer, we have received testimony that MX missiles in Minuteman silos will be just as vulnerable to a preemptive strike as our present ICBMs.

We have also received testimony that comparable accuracies can be achieved by upgrading Minuteman guidance systems.

I would like to ask you this question. Which is the most cost-effective and time-efficient route to achieving a prompt hard target kill capability?

Dr. DeLauer. MX deployment in existing Minuteman silos.

Senator Thurmond. Now we have received testimony that the MX is necessary to support our position in the START negotiations.

Would not a decision to upgrade the accuracy of our Minuteman force and accelerate a small ICBM program indicate just as much desire at the negotiating table?

Dr. DeLauer. In the opinion of Secretary Weinberger, and myself, such an option would give the Soviets a period of almost 5 extra years before they would have to sit down and seriously negotiate. Therefore the capability would not be deployed and would not be in the hands of our strategic forces until late 1988, whereas we could have MX deployed in the Minuteman holes by the end of 1986.

Senator Thurmond. Dr. DeLauer, if you were a Soviet strategic planner whose job was to target our prompt hard target kill capability, which would give you more pause, 100 targets or 550 targets?

Dr. DeLauer. I think it is a matter of how they want to deploy their assets. I don't like to take issue with your question, Senator, but I don't think the numbers 100 and 550 are germane. It is the question of what is the overall laydown of the strategic forces.

As pointed out in the Scowcroft Commission report, you don't take a look at any one particular segment of the triad from a survivability point at this time without considering the other two legs of the triad.

So, it is not just an issue of targeting the ICBM land-based force. It is a question of while you are targeting that particular force, what are you doing with the bombers and the SLBM's.

I don't want to take issue with the question. I think the question is much too narrow and I just don't want to give an answer to such a narrow question when we are talking about strategic deterrence which talks about survivability issues and not how many you kill with a particular strike.

Senator Thurmond. We have had a lot of information furnished both ways on that matter.

I would like to ask you this question: Do you down in your heart feel that we really need the MX missile and need it as soon as we can get it?

Dr. DeLauer. Yes, sir.

Senator **Thurmond**. Do you know of any other system that you feel would be superior to this that would accomplish the purpose as well as MX?

Dr. **DeLaueer**. In the timeframe; no, sir.

Senator **Thurmond**. You without question feel that this is the best system under the circumstances and recommend that we go forward with it?

Dr. **DeLauer**. Yes, sir.

Senator **Thurmond**. Thank you very much.

That is all, Mr. Chairman. Thank you.

Mr. Chairman, I have a meeting at the White House so if you will excuse me, I will run along.

Senator **Warner**. Yes, sir. Thank you very much for joining us this morning.

Dr. DeLauer, there have been some published reports that a small missile program may not have the full support of perhaps even the Secretary of Defense and the Commander of SAC.

Have you had an opportunity to see any of those reports and talked with either of those individuals?

Dr. **DeLauer**. I have read the reports. The two I have read were in the local newspaper, one in a column and one by a reporter.

Like most of those particular reports on the whole strategic modernization program, they take a very narrow slice out of the overall fabric. They then proceed to examine it in detail and extrapolate it back to the full tapestry and they come up with a different picture.

I have talked to General Davis. He and I talk to each other quite a bit on this whole question of modernization. I think if you will read his congressional testimony in detail you will find that he has presented a balanced picture of what a specified commander would have to have for him to do his job. General Davis said: Look, I need capability, I need it on a continuum, I need to have it continually improved. I have to create an environment that makes the opposition react in a way that is advantageous to us.

He took the committee through a step-by-step way in which he thought the development should proceed. He supported the small missile at the time when it is ready, with a sufficient accuracy and a degree of survivability. This would provide an additional capability to his force.

So, I think he is in complete support of the President's program.

Senator **Warner**. As evidence of that support, I want to readdress the funding profile.

I sent down to General Skantze a document which the subcommittee received from the Department of the Air Force under date of April 23, 1983.

In response to the counsel of the subcommittee the Department of the Air Force replied and gave us one sheet which purports to be the funding profile for the small missile program.

Is that correct?

General **Skantze**. That is correct.

Senator **Warner**. I will insert that in the record.

[Exhibit A follows:]

EXHIBIT A.—PRESIDENTIAL NOVEMBER 1982 PLAN AND COMMISSION PLAN IN 1982 AND THEN YEAR [TY] DOLLARS, APRIL 22, 1983

[In billions]

	1982 dollars					
	1984	1985	1986	1987	1988	5-yr total
President's November 1982 plan: 100 MX in CSB	5.6	6.0	4.9	4.1	2.3	22.9
Commission's plan: 100 MX in existing silos	3.9	4.1	3.0	2.2	1.4	14.6
Follow-on technology:						
Small missile	.25	.25	.25			
Superhardness	.15	.15	.15			
Mobility	.05	.05	.1			
Deep basing	.05	.05				
Deployment option				1.0	2.8	
Subtotal	.5	.5	.5	1.0	2.8	5.3
Total	4.4	4.6	3.5	3.2	4.2	19.9

	Then year dollars					
	1984	1985	1986	1987	1988	5-yr total
President's November 1982 plan: 100 MX in CSB	6.6	7.5	6.6	5.9	3.4	30.0
Commission's plan: 100 MX in existing silos	4.7	5.4	4.0	3.2	2.2	19.5
Follow-on technology:						
Small missile	.3	.3	.3			
Superhardness	.2	.2	.2			
Mobility	.05	.05	.2			
Deep basing	.05	.05				
Deployment option				1.3	3.8	
Subtotal	.6	.6	.7	1.3	3.8	7.0
Total	5.3	6.0	4.7	4.5	6.0	26.5

FIG. 3.—Use of fiscal year 1983 Peacekeeper funds

[Assumption: Change from Peacekeeper in CSB to existing silos]

	Millions
R&D (2,509 appropriated/3 lost to inflation)	2,506
Missile	1,734
Propulsion	574
Guidance and control	548
Reentry systems	287
Mechanical	12
Deployment	35
Test	278
Basing	772
Complete deep basing effort	40
Basing work through June	260
Accelerated hardness effort	10
FSD silo program (July–September)—Engr. dev. of SIS, revisist SDR (permanent versus interim), buy dev. hardware	160
R&D production transition (guidance parts/tools)	267
Reprogramed	28
Anser/AFTEC/Air Staff	7

Senator WARNER. General, does that funding profile reflect the recommendations of the Scowcroft Commission and the NSDM referred to in your testimony?

General SKANTZE. That is correct.

Senator WARNER. Were there some adjustments made to earlier Department of Defense budget items to provide those funds?

General SKANTZE. We made adjustment to the initial fiscal year 1984 budget by providing money into the small missile development and in my judgment that funding is very adequate. It supports the small missile. It supports the hardness which would be one option for small missile basing.

It also supports development of the hardened mobility transporter which also supports the small missile.

Senator WARNER. Let us be more explicit from a technical standpoint. The President submitted the 1984 funding request to Congress. Subsequently, the Scowcroft Commission report came out. Subsequently, the NSDM of 1983.

Now, do you propose to amend the original budget submission to reflect those two documents, Scowcroft and NSDM?

General SKANTZE. Upon approval of the Commission report and recommendation by the Congress, assuming that Congress does so, we can use some fiscal year 1983 dollars and initiate this summer's effort to get the proposals out on the street.

Senator WARNER. Would that be a reprograming action?

General SKANTZE. That is correct.

Senator WARNER. You would reprogram 1983?

General SKANTZE. That is correct.

Senator WARNER. And then 1984 would be amended?

If you would like, you may take a few minutes to consult with your staff. I am being very technical. I want this record to be tight and quite accurate.

Take whatever time you wish.

General SKANTZE. We can use, assuming the Congress approves the Commission's recommendations and we go forward——

Senator WARNER. That is a very important point, General. Is it the Department of Defense's contention you will not modify or alter the program out of 1983 dollars, modify the budget following until such time as the Congress acts within the statutory 45 days on this report? Is that correct?

General SKANTZE. That is correct.

Senator WARNER. That is the next procedural juncture in this decision trend?

General SKANTZE. That is correct.

Senator WARNER. Once that is done and on the assumption that the Congress does embrace the Scowcroft Commission's report, then you will proceed to reprogram 1983 dollars and amend the 1984 budget?

General SKANTZE. There is some flexibility within our generalized basing development program and we are doing some concept definition work on the small mobile missile now.

I think in the fiscal year 1983 timeframe we can use such funds to get started, to get the request out on the street, to have the contractors bid on the various pieces of that program. Then, in terms of the 1984 funds, we could probably get language in one of the bills to enable us ot go ahead in accordance with the profile that we have now shown.

Senator **Warner**. That is the question, the profile that you have now shown.

Is that a document that you have submitted to the subcommittee?

General **Skantze**. That is correct.

Senator **Warner**. Let us identify it for the record. It bears transmittal date of ——

General **Skantze**. April 22, 1983.

Senator **Warner**. In the event you amend the 1984 budget, it will be done within the parameters, generally speaking, of this document?

General **Skantze**. That is correct.

Senator **Warner**. Now addressing that document, there is the question of whether or not there is adequate ramp up of the funds in the years 1984 and 1985.

It is my understanding that the funding profile laid out for the small missile development work called for under the revised MX program represents essentially level funding for the years 1984, 1985, 1986, and indeed that document—and what is the date on it?

General **Skantze**. April 22, 1983.

Senator **Warner**. I don't think it is necessary to put in the record that fly sheet that is handwritten. Why don't you put a date on the document itself, the date of transmission or something that we can use for purposes of identification.

General **Skantze**. Yes.

Senator **Warner**. What date would you put on it?

General **Skantze**. April 22, 1983.

Senator **Warner**. You call it the funding profile. That is for the record. We will call it exhibit A.

Exhibit A has a quarter of a billion dollars for funding profile.

General **Skantze**. In fiscal 1982 dollars it is $250 million in 1984, $250 million in 1985, $250 million in 1986. That is just for the small missile.

Senator **Warner**. A legitimate question to be raised is whether that level funding reflects "an immediate start on research and development" as recommended by three Senators to the President on April 29 for implementing the Scowcroft Commission report, page 21, paragraph 2, "Engineering design should be initiated now."

Considering the tense of those verbs and the emphasis conveyed on the immediacy by these recommendations, that funding does not seem to be ramped up.

General **Skantze**. Let me describe it this way——

Senator **Warner**. Do you see my point? I read from page 21, paragraph 2, "This program should lead to the initiation of full-scale development in 1987 and initial operating capability in the early 1990's."

I read that from the Scowcroft report.

General SKANTZE. That is correct.

Dr. LELAUER. That is when the ramp up will take place.

General SKANTZE. Let me describe what will take place. This is as rapid a program as you can implement. If we request proposals by the end of this summer, and let us say three or four contractors bid, we would go through a source selection looking at their definition of what the small mobile missile would be.

We will probably at the same time, be looking at other contractors who would define the nature of the mobile transporters.

That is about as rapid as one is going to be able to go. We would put two finalists on a final engineering validation phase for about a year, select the best one and start in full-scale development in 1987.

We would probably be initiating some preliminary flight testing probably in late 1986. Once you selected a final contractor, you would be off and running. So the funds provided in fiscal year 1984 and 1985 make sense and I think are adequate to do that.

As we see how much progress we make, we can refine the funding profile just as we do on new starts every year. But I think the dollars that are laid out are adequate to get the program started on an engineering definition right now.

Senator WARNER. Gentlemen, this question is so important that I would like to talk hypothetically for a moment.

You will recall that during the presentation by the Secretary of Defense and Chairman of the Joint Chiefs, indeed the Commission itself, I propounded time and time again a series of questions soliciting their views with respect to how the Department of Defense could reorient this program away from the traditional pattern followed for weapon systems, using as an example, albeit rough, the Polaris program and how we went to general quarters and developed that, crossed traditional service lines and budget lines and the like.

This program, I presume, that you have discussed today throughout your testimony and in exhibit A, the funding profile, is taking it, shall we say, in the traditional sense? Would that be a correct definition of how you manage weapon systems today?

Dr. DELAUER. I think it is more traditional than the focused manner of the Polaris program.

Senator WARNER. What I am driving at is whether there is a means by which this program could be accelerated and what would be required, what additional money. How much do you think would be required?

Because time and time again those of us who go to the floor presumably to defend the Scowcroft Commission as now adopted by the President will be asked can they speed it up?

Let us talk hypothetically how this could be speeded up, if in fact it can be.

General SKANTZE. I think first of all, you are in the business of managing risk. You go as fast as you can and you manage risk. What you have to do prudently on the front end of the program is clearly define both the configuration and the performance of what it is you want to build.

Once you understand that, and the detailed configuration is agreed to, then you are limited by how fast you can build the guidance system and missile, and they tend to take at least 2½ years. Then your next decision is how concurrent do you want to run production with full-scale development.

Now keep in mind it is not just the missile. The proposed transporter, particularly if we try to build a hardened transporter, will be a new development and will require a new understanding of the engineering needed to go into such a vehicle.

I think what we are saying in essence is that we are getting started on the definition of these pieces as rapidly as we can. It is going to take a finite amount of time, which is a couple of years, but once we have all the unknowns answered, then we can make a judgment as to how fast and how concurrent we want to proceed with development and production.

I don't really think we can do it much faster than what the Commission recommended.

Senator **Warner**. Dr. DeLauer, do you share that view?

Dr. **DeLauer**. I share General Skantze's assessment. In most cases the question of relevant time is pretty consistent, whether you are building a transport airplane, whether you are building a commercial airplane, whether you are building a missile. They run anywhere from 2 years to 40 months depending on what the item is.

It is the rate of manufacturing and deployment that determines how fast you get it in the field. In many cases that is just a matter of investment. Once you have the design, if you want to make the investment in production capability and deployment capability, have the people there, have the manufacturer of the transporter, whatever you deploy it in, that can be done in parallel ways and that can always be compressed.

There is another piece that is very critical and that is the testing. It is the concurrency of development testing and production that will reduce time. But that requires risk management.

Senator **Warner**. There has been a suggestion that in the development of the MX missile and the various basing schemes that have been analyzed from time to time, if you were to look at that funding profile, you would see a different ramping of funds as compared to what you propose for the small missile.

Dr. **DeLauer**. Not over the same period of development.

Senator **Warner**. That is the very point. I wonder if you can provide the committee with a side-by-side comparison of what was done with the MX and what is proposed to be done with the small missile, so that we can rebut any contention that the flat profile for the 3 initial fiscal years is not really a sincere intention within the Department of Defense?

Dr. **DeLauer**. We can provide that.

Senator **Warner**. You understand my point.

Dr. **DeLauer**. I understand.

[The information follows:]

SIDE BY SIDE SHOWING

Following is a comparison of the funding for the first 5 years of the MX program with the planned 5 year profile for the new small missile program. The first chart is in constant fiscal year 1982 dollars and the second is in actual dollars spent or planned.

RDT&E FUNDING COMPARISON MX VERSUS SMALL MISSILE

[In millions]

	Fiscal year 1982 dollars				
	1976	1977	1978	1979	1980
MX	77	96	173	357	701
	1984	1985	1986	1987	1988
Small missile and basing	500	500	500	1,000	1,000
	Then year dollars				
	1976	1977	1978	1979	1980
MX	49	69	134	308	670
	1984	1985	1986	1987	1988
Small missile and basing	604	604	659	1,293	3,783

Senator WARNER. General Skantze, if there were no MX missiles and the Air Force could devote such manpower and fiscal resources that would otherwise go to MX, to the development of the small missile, do you believe the time would be significantly shortened?

General SKANTZE. No, I do not.

Senator WARNER. Dr. DeLauer?

Dr. DELAUER. No, I think we have the right program.

Senator WARNER. The reasons why not, again uncertainties, and you have outlined it here?

General SKANTZE. There is a finite period of time. No matter how much money, you have to define what it is you want to build.

Senator WARNER. You made it clear. I just wanted to put that question in.

Now, there have been some studies by the CBO, Dr. DeLauer, and a report summary released yesterday indicates the contribution of 100 MX missiles in Minuteman silos would be extremely limited.

They stated 3 percent in 1990 and less than 1 percent in 1996 of all U.S. hard-target warheads would survive a first strike with warning and 5 percent in 1990 and 1 percent in 1996 of all target warheads would survive a Soviet bolt from the blue strike on the MX.

Will you kindly comment.

Dr. DELAUER. In deference to the Chair, I will have to be reasonably prudent about my remarks. But when a budget office attempts to characterize——

Senator WARNER. Do you suggest by that we might go into closed session?

Dr. DELAUER. No. It is a matter of emotion more than security. As a matter of fact, I would like to have an open session so that people can hear my remarks.

Senator WARNER. We are in open session.

Dr. DELAUER. The way that any military planner would configure his force and therefore assess his probability of success is not done by comparing the existing capability with percentages of certain kinds of warheads which would be left.

Overall surviving capability is the heart of deterrence. It is problematical in any person's mind what is enough. To a certain planner, anything other than zero would be too much as a surviving capability.

To attempt to put substance and to create a relative basis of worth based on what they have presented, which is percentage, percentage, percentage, is absolutely the wrong way.

The best I suggest to you is to discuss this with General Davis, whose job it is to worry about these sorts of things. You will find that that is not the way they look at things.

I don't know whether 1 percent is in the Russians' minds too much. It could very well be. One percent is still an awful lot of capability that would survive. That is a sufficient capability to act as a deterrent though we are not building a war-fighting machine other than to establish the credibility of the deterrent.

BUILDING A DETERRENT CAPABILITY

We are building a deterrent capability. As long as you have surviving capability, which you have now, he question is one of emplacement as early as possible. The fact that a highly accurate system is emplaced in our forces increases our security because it creates an additional capability we did not have before.

It will add to our survival capability, depending on the scenario, and it adds to emplaced capability which has value. It will force the opposition to do things. How they react depends on how they view that particular thing. I can put myself in the mind of a Soviet planner, but I could be dead wrong. I am Italian, not a Russian.

It is how you would preceive it. To crisply define 1 percent, 3 percent, and then draw a firm conclusion that the thing does not add any military value and security to our country's deterrent posture is, I think, absolutely nonsense.

Senator WARNER. General Skantze?

General SKANTZE. Mr. Chairman, the CBO review, in my judgment, would narrow the focus surely on the perceived vulnerability of emplacing the MX in silos they assist, that assuming a Russian first strike, based on some testimony that has been given, so few would survive that it would add so little to our hard target kill capability.

In that very extreme narrow context from a purely statistical point of view in isolation from the trend, that is probably a true assessment. I think what has been missed, as you are well aware, was the Commission's perspective that you have to perceive the strength of the Triad in the totality, i.e., the MX's in the silos plus the submarines, plus the bombers, plus the stress that that whole concept puts upon any Soviet perception of what they might have to do offensively and defensively in an attempt to control our strategic trend as the total strength.

I think that this perception was at the heart of the Commission's recommendation. What is unfortunate is that the CBO analysis either totally lost sight of that or didn't understand it. That context is the true context in which the Commission placed its perspective.

Senator WARNER. Turning now, General Skantze, to the small missile, CBO also addressed that. The Department of Defense figures indicate that the cost of fielding small missiles would be on the order of $42 billion plus annual operating cost in fiscal year 1984 dollars on a 20-year life cycle in excess of $100 billion.

Does the Air Force have any views on those figures?

General **Skantze**. I think there are a number of preliminary estimates with respect to a mobile missile force of a thousand missiles and the security and the convoys that would go with it and in the case in which we put them out on the public roads without any kinds of hardened vehicle.

I think we recognize it is a manpower-intensive system, but I think certainly within the context of defining that missile we are going to look at ways to minimize that. For example, if we can devise the mobile carriers with the right degree of hardness, it could very well be that you could base them within the confines of Government-owned land and you would not have to deploy them outside of that.

So, there are obvious things we can do to minimize that. I think what they are quoting are very preliminary and in some cases worst case numbers.

Senator **Warner**. Dr. DeLauer, I think I would like to have you lead off on this question, and then General Skantze can provide his views.

During the presentation by the administration on the Scowcroft Commission some of my colleagues raised questions, my recollection is Senators Cohen and Nunn, respectively, how this program could be structured to be compatible with the approach to arms control; namely, that we build if there is no success, we stop building if there is perceived success in arms control goals. That would require a unique program from the standpoint of the traditional management of weapon systems.

Have you had an opportunity to look at the record with respect to those questions, and formulate a tentative approach to program management? If not, would you do so and provide it for the record?

I think the question is of such importance that I feel it should be thought through very carefully as you prepare your response for the record.

Dr. **DeLauer**. I shall do it for the record. I should consult a bit with my arms control colleagues. From a program management standpoint whatever they said might be a scenario that can show how it could be handled.

[The information follows:]

COMPATIBILITY WITH ARMS CONTROL

The Peacekeeper program, as outlined by the President's Commission on Strategic Forces, is important to the achievement of the primary U.S. arms control objective: the move to more stable strategic deployments by both parties. Since arms control negotiations are heavily influenced by ongoing programs, the Peacekeeper program will mean that the Soviets are faced with an active modernization program. Although deployment will be limited, should the Soviets refuse to engage in stabilizing arms control, the United States could reconsider its deployment and produce more. If we are successful and the Soviets move towards more stable strategic deployments, we can take appropriate measures to restructure the program in cooperation with Congressional guidance.

Senator **Warner**. I am going to ask counsel for the committee and others to convert this session from an open session to a closed session. We will reconvene in about 3 minutes.

EXECUTIVE SESSION

Senator **Warner**. Dr. DeLauer, we are ready when you are.

Dr. **DeLauer**. Yes, Mr. Chairman.

Senator **Warner**. I tell you, we have one question for both of you. It is derived from testimony received last week from Gen. Bennie Davis, Commander-in-Chief of Strategic Air Command. He indicated that the approximate percentage of Minuteman missiles surviving Soviet first strike would be in the order of [deleted] percent. Many of us on this committee have had a similar attack described as being more severe with a lesser rate of survivability. Let us clarify that for the record. Indicate in your testimony what is classified and what is unclassified.

Dr. **DeLauer**. I would think that anything that has to do with the present situation, in other words, our knowledge of what the Soviet accuracy is at the present time, our assumption on the survivability, the hardness of our existing land-based force now, the development concept for our bombers, deployment area for our SLBM's, those things I think would be highly classified.

Senator **Warner**. I concur with that. We just discussed the CBO report regarding the small percentage of survivability. We have to deal with this.

Dr. **DeLauer**. You were asking me which would be——

Senator **Warner**. Let us take the Minuteman force as it exists today, then the MX force after its IOC.

What can we work with here in the Senate?

Dr. **DeLauer**. When we presented new material 2 years ago on the program that——

STRATEGIC MODERNIZATION PROGRAM

Senator **Warner**. What program are we talking about?

Dr. **DeLauer**. I am talking about the strategic modernization program.

When we talked about MX at that time, we actually proposed putting it in the existing Minuteman holes, and Congress precluded that by language in the bill. We showed you that, depending on Soviet accuracy and the time period involved, the survivability could be as low as [deleted] percent.

Senator **Warner**. That is MX in existing Minuteman silos.

In any event, the attack could not involve any utilization by the President of the land-based system to retaliate before we are receiving our strike?

Dr. **DeLauer**. I would think that everything is based on the fact that you have nuclear detonations on the continental United States.

Senator **Warner**. You have one SLBM come in and nothing happens. There are so many scenarios under this. I think the one we are dealing with is a counterforce barrage from their system against our fixed land-based system and under the circumstances where the President and his command and control elect not to fire any of our land-based systems.

Dr. **DeLauer**. The survivability could be as low as [deleted] percent, depending upon their accuracy and the time period involved.

Senator **Warner**. Is that classified?

Dr. **DeLauer**. I believe so.

General **Skantze**. Mr. Chairman, let me introduce General Shaud, who can talk to the probability of launch survival.

STATEMENT OF BRIG. GEN. JOHN SHAUD, DEPUTY DIRECTOR, AIR FORCE PLANS AND OPERATIONS

General **Shaud**. The answer to this is consistent with what Dr. DeLauer said. It is based on the timeframe that we are talking about. General Davis in his testimony was talking about the here and now with Soviet-fielded systems.

Senator **Warner**. Let us establish the framework of our discussion. There are two scenarios.

One, today, with the Minuteman system.

Two, the Minuteman replaced by MX, IOC.

Dr. **DeLauer**. 1986 and 1988/1989, respectively, for IOC and FOC.

Senator **Warner**. When you have the full complement?

Dr. **DeLauer**. Yes.

Senator **Warner**. Let us take scenario 1. We have a bolt out of the blue and the President elects not to fire any of our land-based systems.

General **Shaud**. We would expect to have about two Soviet RV's against every silo and today we look, as of right now with fielded Soviet systems, at around [deleted] percent survivability.

Senator **Warner**. Today with Minuteman and scenario 1, [deleted] percent U.S. survivability?

Dr. **DeLauer**. Looking at Soviet-fielded systems, yes, sir.

Senator **Warner**. Soviet what?

Dr. **DeLauer**. The systems they have in the field operational as of right now.

Senator **Warner**. The second scenario?

Dr. **DeLauer**. Over time, we look at the projected improvement of Soviet systems, specifically the SS–19 and SS–18 with its accuracy. Accuracy improvement is the dominant variable when we look at survivability as low as [deleted] percent.

Senator **Warner**. With the MX having replaced the Minuteman.

Dr. **DeLauer**. In the Minuteman silo configuration.

Senator **Warner**. What it is, the present configuration of our land-based system irrespective of whether we have Minuteman II or MX as time marches forward we are going to go from [deleted] percent today to perhaps as low as [deleted] percent by the late 1980's?

Dr. **DeLauer**. And it is dependent, of course, on the improvement of Soviet accuracies which we project. Of course, there is a great deal of uncertainty connected with that.

Senator **Warner**. Now I am going to defer to counsel to ask this question.

Mr. **Renehan**. What scenario were we talking about in the December testimony when we had some 95 percent of the ICBM, land-based ICBM eliminated by a preemptive strike?

Was that a different scenario than we are talking about now? In the timeframe reference of 1984 has the Soviet Union the capability to eliminate some 95 percent of our fixed land-based ICBM's in a preemptive attack while expending only a small portion of their strategic forces?

That was in the December hearing on MX.

General **Skantze**. December 8? Right.

Senator **Warner**. May I suggest you take a moment. This is a very important question.

Senator Exon?

Senator **Exon**. Thank you, Mr. Chairman.

Gentlemen, welcome.

I think we continually overplay the numbers game on all these things, but it seems to me that generally speaking we have had an overwhelming amount of testimony over the last 2 or 3 years that we should not place the MX in a vulnerable basing mode.

When we talk about deploying MX in Minuteman silos, which everyone so far has testified indeed is a very vulnerable basing mode, do the three witnesses here agree with that conclusion?

Dr. **DeLauer**. Yes.

Senator **Exon**. You know that has been rejected before by the Congress. Indeed, it has been rejected by the military leadership of this country and the civilian leadership of this country involved in these matters.

Basically it came up when General Davis was before the committee in open session last week. I inquired as to what would the survivability rate be. Magically it seems that now as we go ahead and deploy the MX that up to [deleted] percent of them would survive in an all-out strike by the Soviet Union.

We have testimony by General Skantze and Secretary Weinberger and others on the record that it would be 5 percent and 10 percent.

Has there been a change in those figures? Is there something we don't know about? I guess when it comes to things like this, there should be some agreement within some parameters as to what our survivability would be.

Let me ask this question of each of you: What do you think should be the survivability percentage of MX deployed in Minuteman silos as presently envisioned?

General **Skantze**. Let me take a crack at that first.

As I testified on December 8, there is no question that we have all testified and do believe that the Minuteman force is in the stressed mode as far as survivability and that the survivability numbers that are projected are low and that fielding the MX in the Minuteman silos would not make that survivability greater than what it would have been for the Minuteman.

Senator **Exon**. Let me interrupt you, General.

If you could elaborate also, it would seem to me under that kind of scenario, and we throw that term around a great deal, but under those conditions our new 10-warhead Peacekeeper put us in a less advantageous position because theoretically the Soviets would not have to change their present target of Minuteman silos?

We assume they have at least two warheads on each of our Minuteman silos. They could knock it out just as easily if we had a 10-warhead MX missile in there rather than a Minuteman II or Minuteman III.

It seems to me from that standpoint we would be further weakening our position and giving their missiles more strength, if you will, in a first-strike scenario.

General **Skantze.** Senator, I think you have to go back to the Commission's context and their recommendations. The Commission recognized that MX in Minuteman silos would be vulnerable if viewed in isolation, but the Commission said that the survivability of the triad has to be looked at as a whole.

I think that group of individuals was perhaps as astute and knowledgeable a group as we could have ever put together in this country to look at the strategic forces. I think they took just those concerns into account in their recommendation and within the total context of fielding a triad they said that it is appropriate to field up to 100 MX's in those Minuteman silos plus move out in a broader context to redress the strategic land-based ICBM survivability issue by recommending an engineering development phase of the small mobile missile.

I think it is that total context in which they made their recommendation, recognizing the vulnerability issue, which was embraced from that same broad context and we are moving ahead to implement it.

I just think that they put a broader perspective on it than we had been heretofore looking at.

Senator **Exon.** You know, it is the old situation, you have a bird in a cage and the cat is always getting in there and eating the bird. Then you put 10 birds in the same cage, the same cat can get 10 birds rather than 1.

I guess what you are saying is to get us by the interim period we have more strength from the 10 warheads as a threat until we get to the mobile missile?

General **Skantze.** With a few more elements to it. For example, the Commission said that when you look at the triad in the total context, then when he looks at what he might do against the Minuteman fields he has to take into account what are the bombers doing and what are the submarines doing.

If he tries to strike Minuteman with his own land-based ICBM's, then he triggers a situation in which the entire alert bomber force plus some others are flushed. He gives that away. So he can't structure himself strictly against one leg of the triad. That is the point that the Commission was making.

In addition, they said in fielding those MX's you are demonstrating a resolve which ties in with the efforts on the arms reduction negotiation and gives you more muscle in that respect.

So, it is a total context of a perspective of how this Nation needs to address its strategic force.

Senator **Exon.** This really concerns me and I am trying to listen and I am trying to be objective. It seems to me like we are changing the ground rules at 5½ innings in the ball game.

We were sold on the idea we need the MX and it was designed to be a mobile-based MX, the MPS system which the Air Force has always been in favor of and still is, I guess, if it was their option. I believe strongly in the strong three legs of the triad.

Explain to me, if you will, two ICBM's presently targeted on this Minuteman hole. We take that out and put in a 10-warhead missile, we have the same target.

How is that going to strengthen the other two legs of the Triad?

Dr. **DeLauer.** Senator we are building a deterrent. The strategic deterrent policy says the opposition cannot embark on an adventurous role of attempting to destroy the deterrent, as a matter of fact, because you never get to the point of destroying the deterrent.

Now, to answer your question specifically. Survivability is a point solution. Either it kills the target or it doesn't. All this probability stuff that you have is the basis of trying to get your arms around the situation. When you launch an ICBM attack you take into account the accuracy of the system, and the accuracy has to include the errors in all the elements of your system.

You take into account the variations of that particular accuracy and the accuracy includes not only the conditions at the launch point, but over the target. There may be a big storm at the time, you have to know the weather. All these things lead you to a statistical approach which gives the probability as to which systems will be put out of action.

Let us take the case of the 10 warheads in Minuteman holes. If one of them survives, you have 10 warheads surviving. What the Soviets are after is not what is in the hole, he is after the hole. If you can put more capability in the hole, each one surviving has a higher value.

Now, it is a question of cost. Now, the holes aren't any harder than they were with the Minuteman in them. But as an installed capability, they represent a threat and since this is a closed session, it represents a threat the Soviets have to do something about.

General Davis' testimony pointed out to you that what you want to do is to have as much ambiguity as you can have as to what action and reaction capability exists. The more ambiguity, the stronger is the deterrent.

What we keep getting faced with is people talking about point scenarios. You slice the baloney so thin and then you examine it in statistical detail. To have the answers in statistical detail you have to look at the whole sample.

On the question of 5 or 10 percent we did testify in December. The Secretary did, and I was with him. He said about 95 percent. I will guarantee you that our calculations aren't that accurate to give you a number that precise.

It would be [deleted] percent, and it would be [deleted] percent. It can be a lot of things depending on the equation I talked about. It is a lot lower now than it was 5 years ago. It is lower for the following reasons:

ADVANCES IN GUIDANCE SYSTEM ACCURACY

They have made advances in guidance system accuracy that we knew they were going to make. They have fractionated their payloads to provide increased capability against softer targets, which our lack of real hardness permits them to do.

Now that increase in their capability has on a statistical basis permitted them to have a higher success rate against ICBM's. They are still zero on SLBM's for any real practical purpose except for the boats that are in port. In part, of course, they are 100 percent.

But on boats that are deployed, they are zero. They have to worry about those zeros. This is exactly what the Scowcroft Commission said. Recognize the fact that this is indeed a strategic deterrent situation. Deterrence is not for all time. Deterrence varies depending upon what each side does.

The point I have been trying to make for 2 years to this committee has been is to look at the totality of the thing. Don't cut it up so much. Look at the total thing and see how much we can afford. Fourteen percent of the defense budget to modernize the force. We will have a force modernized that I guarantee you won't last more than 20 years. It never has.

So, my successor and your successor will be in here arguing about the same issues 20 years from now unless we get an arms limitation agreement and bring the number down. You are not going to do that from a position of inferiority. They just don't have to do anything. You are not threatening them at all. But putting those MX's in the ground like we wanted to do in December 1981 is to get them to do something about it; to sit down and talk seriously about reductions.

MISSILES IN EUROPE VULNERABLE

The Pershing missiles and the GLCM missiles in Europe are just as vulnerable. Why are the Soviets making such a fuss about having them there? They represent a threat to them when they are there. But they don't have a high survivability rate. They have very little, but they represent a deterrent. They represent a situation that the Soviet Union has to take into account if they expect to be adventurous in the world in a geopolitical sense.

The reason we talk about accuracy, the reason we talk about survivability, the reason we talk about all these other things, Senator, is to put the other segment of deterrence on the table, and that is credibility.

The reason we test fire missiles is to see how accurate they are and demonstrate to the Soviets that our missile systems are good so they will believe us.

Senator **Warner**. If I might interject myself in this important line of questioning, the Senator's question I think can be answered as follows: Irrespective of what is in the hole, a percentage will survive varying now between [deleted] and maybe [deleted] by 1990?

Dr. **DeLauer**. Something like that.

Senator **Warner**. If we go forward with the substitution of MX for Minuteman, that curve tracks the same way on survivability. Instead of Minuteman III warheads you will have 10 warheads and more warheads and warheads that are capable of threatening even the hard targets valued so highly by the Soviet Union.

Dr. **DeLauer**. And the Soviet Union must take that into account in their posture because it is threatening to them.

Senator **Warner**. The subquestion, and equally important, that is raised along this line, is it cost effective when we just go from 3 to 10, which is a net gain of 7 warheads, plus hard kill for the extraordinary sum of money to put this system in?

Dr. **DeLauer**. It is a matter of judgment, Mr. Chairman.

Senator **Warner**. Whether that money could be better spent by going with the mobile, small missile rather than expending large sums for MX?

Dr. **DeLauer**. I think you have dealt with that and I think it is a question of whether this country is willing to spend as much money for strategic modernization as the kids put into the arcade per year. That is a matter of people's judgment. It is exactly the exchange ratio. It is exactly the same exchange ratio.

Senator **Warner**. Strategic modernization and the coin machines?

Dr. **DeLauer**. Yes, $8 billion a year.

Senator **Exon**. I think we are getting into political rhetoric now, frankly, Mr. Chairman.

DISMANTLING THE TITANS

As we are talking about all of this, I presume that the administration is proceeding with dismantling the Titans as rapidly as planned?

Dr. **DeLauer**. Yes, the Titan II's and B-52D's are all coming out of service. So, we are reducing the least effective parts of our strategic assets.

Senator **Exon**. And you do not believe, Dr. DeLauer, that continuing to dismantle the Titan II's without any offsetting reduction by the Soviets, that is a concern?

You see, we talk about the strength of our triad. I have never been able to understand why we want to dismantle our Titans before the MX's are in the hole.

Dr. **DeLauer**. The explanation I have to give you is that what we are trying to do is have a program that is best as far as costs to maintain the system and its effectiveness.

This is no different from the Soviets. The Soviets have dismantled systems along the way. The only difference is that they dismantle and immediately have something to take their place. That is what we have, called MX.

Senator **Exon**. We don't have it.

Dr. **DeLauer**. You asked what the administration's view is. We keep proposing it. We could have had MX's almost in the ground now. Two years ago we proposed to Congress to do exactly what the Scowcroft Commission recommended as far as the MX was concerned.

Senator **Exon**. You feel that it makes sense to continue to take Titan's out of the ground when we have nothing to replace them with?

Dr. **DeLauer**. We have MX's to replace them.

Senator **Exon**. We don't have MX's. What do you think, General?

General **Skantze**. One, we have a supportability problem with Titan II's. They cost a lot of money to keep going. So, we laid out a graduated program to bring them down through 1987 and that several hundred million dollars a year is being applied to the strategic bomber modernization.

It is a calculated trade-off.

Dr. DeLauer. This is very emotional for me, Senator, because I was the Titan II program manager. I watched every single one of them go in the ground.

Senator Exon. You think they should come out?

Dr. DeLauer. Yes.

Senator Exon. Even though we don't have anything to replace them with now?

Dr. DeLauer. We have to phase them out. They are not that cost effective for us.

Senator Exon. General Shaud?

General Shaud. Senator, everything has been said. Supportability and maintainability, of course, were the operational problems. I have to say that we are betting on the MX. That makes the Titan II decision prudent.

Senator Exon. I assume you are all aware of the fact that the Pentagon and the Air Force's suggested savings of $600 million have now evaporated down to $250 million at the rate we are taking these out?

You are familiar that that cost, that savings have gone down appreciably?

Dr. DeLauer. I think you are right. I think we are not taking them out at the rate that would give us the $600 million savings.

Senator Exon. I would appreciate your looking into that because, as I understand it, we are taking them out at about the same rate. I think the cost savings were probably overestimated.

[The information follows:]

Cost Savings in Titan II Removal

The Air Force originally estimated Titan II deactivation savings at approximately $500 million over the fiscal year 1982–87 time frame. Now that the retirement program is underway, it is possible to more accurately assess the expected savings. Current projections show that savings will total about $456 million for the same period. These figures reflect the difference between what would have been needed to keep Titan II operational and what will now be spent. The savings accrue from reduced operation and support expenses as well as from cost-avoidance due to cancellation of several modification programs. Neither the original nor the current estimate reflects additional funds which will be needed to dismantle the deactivated launchers under the SALT I Protocols. These costs are still being studied, but current estimates show dismantling will cost approximately $70 million for the 53 Titan II launchers. The fiscal year 1984 budget request includes $12 million for the dismantling program.

Senator Exon. I guess it comes down to the fact that the amount of money we talk about spending when somebody says we are going to save $250 million in a year taking these out of the ground, it seems to me, and I must concede that I do not have very many colleagues that share this with me, the Air Force used to, but I notice the Air Force changes its position from time to time also.

Dr. DeLauer. I don't think General Davis ever changed his position. I don't think any SAC commander wants to take one KT out of the inventory.

SUBMARINE SURVIVABILITY

Senator Warner. That we concede and in that vein, Dr. DeLauer I don't mean to interrupt my colleague, but the SAC Commander, General Davis, was discussing the subject of submarines and survivability and they are in basically three classes, those in port or in overhaul, those on nonalert status and those on alert status.

For the record, would you give us your survivability ratio of the submarine force?

[The information follows:]

ICBM MOD

For day-to-day strategic operations, a deployed SSBN is assigned any one of three conditions of launch readiness: Alert, modified-alert or non-alert.

Alert status is assigned to those units that are at sea on submerged patrol. Alert SSBNs are considered to be totally survivable.

Modified Alert status is normally assigned to those SSBNs that are at sea, proceeding submerged to or from their assigned patrol areas. They are in a transitory status, either generating to an Alert posture or coming off patrol and proceeding to port for upkeep and crew rotation. Because they are at sea, they are regarded as totally survivable.

Those SSBNs that are in-port are assigned a status of Non-Alert; they are the only SSBN units that are not considered to be totally survivable in a surprise nuclear attack.

Senator **WARNER**. Counsel for the minority raises a very important question which we are required to have clarified for the record, and that preferable would be an open record, the question being: Would you provide for the unclassified record what the probability of survivability is for our fixed ICBM's, given a ride-out scenario under a Soviet attack and you should put it on a curve beginning in 1983 and terminating in 1990?

If there is a difference between the estimates that you provide in this response and those given this committee on December 8, 1982, would you explain the difference and explain the reasoning for the difference?

Dr. **DELAUER**. Yes, sir.

[The information follows:]

PROBABILITY OF SURVIVABILITY FOR ICBM'S

The difference in estimates provided by Secretary Weinberger, General Davis and myself at various times is explained by the specific time period involved. The [deleted] estimate provided by General Davis, for example, refers to the survivability of our Minuteman systems as they exist today. The lower estimates mentioned by Secretary Weinberger refer to the anticipated survivability of Minuteman in 1990s if the Soviets continue their force improvements and we do nothing.

To provide a curve illustrating the survivability probability over the 1983–1990 time period would be meaningless, in isolation, because any hypothetical curve would have to vary with estimates of the Soviet threat and our response to that threat. The Scowcroft Commission recommendations, when implemented, for example would markedly impact survivability curve. In addition, and perhaps more telling, there is no way to incorporate other critical factors like the interaction with the other legs of the triad.

Senator **EXON**. I appreciate your being here, gentlemen. I suspect that the only person who could fairly answer this question, although it is not directly in his territory, would be Dr. DeLauer.

I assume that there is an underlying feeling in the Pentagon, which probably prevails in the White House, that the MX missile has a keen bearing on our chances for success with arms control with the Soviet Union?

Dr. **DELAUER**. There is no question that you assess that feeling right. I think it was supported in the Scowcroft Commission report.

Senator **Exon**. If we proceed, as has been suggested by some, with the MX missiles with the idea of eventually putting them in Minuteman silos, whether the purchase was 10, 20, 50, 75 or 100, I assume that we would hope that we might not ever have to complete the total purchase, that maybe that would entice the Soviets to a more realistic position at the bargaining table.

Can you expand on that in closed session?

Again, I think it is important that we not bargain these kinds of things in the public mind, but could you clarify in closed session?

Dr. **DeLauer**. I think Secretary Weinberger mentioned the fact that an option that is available to us in the arms control arena, and I have to now give you speculation because that is not my area of responsibility, is a proposal that could very well be made which has been discussed. If you sit down and bargain realistically and with substance, we have the flexibility to be able to reduce deployment. The whole idea is to lower the amount of installed capacity.

How do we accomplish that lower installed capacity? You take out five of those or one of these. That is something that ought to be negotiable. There is certainly nothing in our capability that prohibits us from doing that if that is an advantage to us.

Senator **Exon**. One last question, Dr. DeLauer.

Do you think it is practical, or have you heard it discussed, that we might consider ordering 50 MX or less over the next 3 years as a first step?

What is so magical about the 100?

Dr. **DeLauer**. I think the best I can get out of reading and talking to the Scowcroft Commission people is that 100 is sufficient a capability that provides a threat that the Soviets would have to pay attention to. It is indeed an installed capability. It is one that is economically about the right thing to do.

Senator **Warner**. Gentlemen, thank you very much. I was about ready to close the meeting. Senator Levin has a few questions. Therefore, I will defer to him at this time for any questions that he has on his mind.

While he is refreshing himself on the notes, I want to thank you very much for coming before the committee once again. We feel here that we are making a very important decision in this whole matter. I think there is no one on this committee that does not want to make the right decision.

Thank you very much for being here. I appreciate your testimony.

Senator Levin?

Senator **Levin**. Good morning, Dr. DeLauer, good morning, Generals.

SURVIVING WARHEADS

I want to get into the question of surviving warheads. Senator Exon has already asked you about it. I want to see if we can clear up the figures in my own mind.

We have been given two different figures. Maybe you can harmonize them in some way. A few months ago our committee received the following testimony, and now I am quoting the Air Force statement:

> The Soviet Union through unexpectedly rapid advances in guidance technology now has the capability to eliminate some [deleted] percent of our fixed land-based ICBM's in a preemptive attack while expending only a small portion of their strategic forces.

I am wondering, Dr. DeLauer, whether you would agree with that figure of [deleted] percent?

Dr. **DeLauer**. Senator Levin, I have answered that question a little bit before this. We also have been asked by the minority counsel to provide a threat curve versus time because that is what it would have to be. While they have the capability, it is not necessarily all installed at the present time.

Our intelligence estimate indicates [deleted]. We were talking about the MX deployment. The fact of whether it is [deleted] percent or [deleted] percent or [deleted] percent is a matter of statistical sampling.

We are going to have to provide that for the record the next time. I prefer to do it that way because it is a very fast moving question. I have to qualify each number I give you telling you when it will be installed, how much is installed.

I think the operative words in that particular sentence are "They have the capability."

Senator **Levin**. "Now have the capability?"

Dr. **DeLauer**. That is right. The capability, though, can be in their technology, because it can be installed, and it can be tested. We were testifying at that time, as well as the Secretary, in the context of the deployment of MX in closely based spacing, the superhard thing.

At that time we were talking about a time period of 1988 and 1989, in that timeframe. But we will provide that for the record.

[The information follows:]

SURVIVING WARHEADS

As I mentioned earlier, there are a number of estimates available as a function of the time period involved. They must be used with caution, however, since the Minuteman survivability probability, taken in isolation, is not very meaningful without regard to the interaction of the other legs of Triad nor the implementation of the recommendations made by the Scowcroft Commission.

Senator **Levin**. Let me press you a little harder on that. Are you saying between now and 1988 that they will gain the capability to wipe out [deleted] percent of our fixed, land-based ICBM's?

Dr. **DeLauer**. Our estimate is that they could have that capability installed, yes. That is what we stated.

Senator **Levin**. What is their capability now?

Dr. **DeLauer**. Their capability now, from the latest information I have from talking to people who are responsible for this at the Strategic Air Command, is that about [deleted] percent would be survivable.

Senator **Levin**. So their present capability, you are saying, is to eliminate [deleted] percent?

Dr. **DeLauer**. That is right.

Senator **Levin**. By the time we get the MX it will be [deleted].

Dr. **DeLauer**. Yes, because it is accuracy-dependent and they are upgrading their systems all along.

Senator **Levin**. So that the record is clear, by the time we install the MX, if we do, we assume they will have [deleted] percent?

Dr. **DeLauer**. They could have, yes.

Senator **Levin**. Is that what we are assuming they are going to have?

Dr. **DeLauer**. We have stated that we are assuming that, yes.

Senator **Levin**. Can we fairly assume it?

Dr. **DeLauer.** You can assume it.

Senator **Levin.** Can we rely on your statement?

Dr. **DeLauer.** You can rely on my statement.

Senator **Levin.** Which means if we install the thousand warheads, we can assume a survivability of how many warheads out of a thousand?

Dr. **DeLauer.** [Deleted] warheads.

Senator **Levin.** How does that compare with the surviving number of warheads in one submarine, one Trident submarine?

Dr. **DeLauer.** It doesn't compare to surviving warheads on Trident submarines, except you will have it 5 years earlier.

Senator **Levin.** We are going to have the MX 5 years before the Trident?

Dr. **DeLauer.** Yes.

Senator **Levin.** Other than that, how would it compare?

Dr. **DeLauer.** They are about the same, about the same accuracy. They can cover [deleted] targets with those [deleted] warheads.

Senator **Levin.** How many warheads would survive on the Trident?

Dr. **DeLauer.** That depends on how many are at sea. A hundred percent would survive at sea. We are going to have [deleted] boats. I can't remember offhand, I think there are 24 missiles in each. Sixty percent of the force is at sea. I can't run through the arithmetic. There are 24 missiles per boat. [Deleted.]

So they will each carry, depending on the same make of equipment, [deleted]. You would have about [deleted] warheads that would survive.

Senator **Levin.** So we would have [deleted] times as many warheads?

Dr. **DeLauer.** [Deleted] times as many warheads.

Senator **Levin.** What is the Trident going to cost?

Dr. **DeLauer.** About $26 billion.

Senator **Levin.** How much will each Trident cost?

Dr. **DeLauer.** You have to look at the whole system.

Senator **Levin.** Divided by the number of Tridents.

Dr. **DeLauer.** About $4 billion apiece.

Senator **Levin.** One surviving Trident, assuming that the Trident survives, will have how many warheads on it?

Dr. **DeLauer.** It will be [deleted].

Senator **Levin.** So that one surviving Trident will have more surviving warheads than the MX?

Dr. **DeLauer.** As long as they don't have any more ASW than they do now.

Senator **Levin.** The Tridents are secure at least in the next century?

Dr. **DeLauer.** No, no. I never said that.

Senator **Levin.** What assumption are we making about the Trident?

Dr. **DeLauer.** They are survivable into the next decade.

Senator **Levin.** Assuming that we have the Trident survive that we are talking about, the one Trident survive, we have [deleted] warheads on a Trident?

Dr. **DeLauer.** Yes.

Senator **Levin.** It cost us $4 billion?

Dr. **DeLauer.** Yes.

Senator **Levin.** The MX gives us [deleted] surviving warheads and cost of $16 billion?

Dr. **DeLauer**. About that.

Senator **Levin**. Can you tell me why we should pay $16 billion for [deleted] surviving warheads when we can get [deleted] surviving warheads on one Trident for $4 billion?

Dr. **DeLauer**. Because that is an incomplete analysis.

Senator **Levin**. I am asking you to tell me why.

Dr. **DeLauer**. That is an incomplete analysis.

Senator **Levin**. Complete it for me.

Dr. **DeLauer**. Without the MX, without a survivable land-based missile system, and remember we are talking about MX followed by a small missile——

Senator **Levin**. I am not talking about the small missile. I am talking about MX.

Dr. **DeLauer**. I am talking about the MX which is still survivable, not to the degree that we have been discussing.

Senator **Levin**. [Deleted].

Dr. **DeLauer**. [Deleted.]

Senator **Levin**. [Deleted.]

Dr. **DeLauer**. [Deleted.]

Senator **Levin**. Why would we spend $16 billion——

Dr. **DeLauer**. Because that is an installed capability. You keep talking about whether or not these things are going to be attacked and survive. That is only a question of the credibility of our deterrent. [Deleted] land-based warheads to the Soviet Union may be the difference in their view of how good our deterrent is. I cannot put a value on it except my judgment.

Senator **Levin**. [Deleted] warheads could be a difference?

Dr. **DeLauer**. It could be.

Senator **Levin**. So the difference between surviving we could spend a trillion dollars for [deleted] warheads?

Dr. **DeLauer**. I didn't say that. Now you let me answer your question.

Senator **Levin**. I will be delighted. Tell me again. I have to explain to my constituents why we spend $16 billion for [deleted] surviving warheads when we can spend $4 billion for [deleted].

Try again. I won't interrupt.

Dr. **DeLauer**. The advantages of having a triad has been reiterated in the Scowcroft Commission report. If you do not accept their assessment of the value of the triad, then any argument I make to you in this regard has no basis for an understanding. If indeed it has validity, if indeed the Triad has capability from the standpoint of overall deterrence, then any survivability in the land-based leg has some validity because it provides a response that the Soviet Union must take into account if they are going to attempt to consider our strategic deterrence capable of deterring them.

DETERRENCE

I am talking about deterrence. Everyone wants to keep from fighting with our strategic systems, which is the dumbest thing in the world. The concept is one of deterrence. The concept of deterrence is a question of do you have a capability that in the minds of the opposition causes him to be deterred from taking action?

In most cases his action will not have anything to do with deterrence. His action will have to do with things other than an attack on the deterrence. The reason we make survivability analyses is to see whether or not our deterrence is credible.

In my view [deleted] weapons, are a very, very significant contribution to deterrence. The will be ahead of the D-5 missile, which is the only thing which can come close to it 5 years ahead of time. I think it is worth it.

You can tell your constituents in Michigan that I think it is worth that money at the present time.

Senator LEVIN. What do you assume to be the alert rates of the SLBM's?

Dr. DELAUER. About 60 percent. Not so much alert rate, but on station ready to go.

Senator LEVIN. You assume survivability of 60 percent?

Dr. DELAUER. Yes.

Senator LEVIN. A few months ago the Air Force used the figure of [deleted] percent.

Dr. DELAUER. One is generated and one is nongenerated. You can't have it both ways. Either bolt out of the blue or generated, is what you postulated. If it is a bolt out of the blue, it is not a generated one. Generated force would be one with a lot of strategic warning.

So you send things out to sea ahead of that time so that you have a higher percentage of ships at sea.

Senator LEVIN. You are assuming a survivability rate for your analysis of 60 percent of the SLBM"s?

Dr. DELAUER. That is to answer your question. You are trying to make a back of the envelope comparative analysis between how many SLBM warheads would be available for counterforce and how many would be from MX.

Senator WARNER. [Deleted] is generated or nongenerated?

Dr. DELAUER. You count some of the transit ones as being able to be redirected.

Senator LEVIN. The other day we got a figure of [deleted] percent survivability on the ICBM's. You were here, Mr. Chairman. It was a public session. It was [deleted] percent we assumed would survive. That was the figure. Then we said no, better go into classified session.

Mr. Chairman, we have had testimony on this in open session including the Secretary of Defense that we assume 95-percent elimination. Twice we have got this testimony in open session. That is what we heard when it was time to sell Dense Pack.

You see, when we were being told we are vulnerable the figure was used, "Oh my God, look at this, look at what the survivability is going to be. It is only 5 percent. We have to have a survivable land-based system because we are 95-percent vulnerable."

Now we are being offered this proposal. We are told we are only [deleted] percent vulnerable.

Dr. DELAUER. You read his testimony. He tells you that is what exists at the present time. What the Secretary told you in his testimony was what the forecasted capability was going to be at the time the MX was going to be deployed in Dense Pack.

Senator Levin. The only answer you can give my constituents for why we would spend $16 billion for [deleted] survivable warheads instead of $4 billion for one more Trident to give us [deleted] survivable warheads, [deleted] as many warheads at one-quarter of the price, is the triad, which doesn't explain why we don't upgrade Minuteman, it doesn't explain maintaining Minuteman.

No one is talking about giving up the triad. You are not giving us a survivable system. You are giving us a non-survivable way of keeping the triad. There are lots of ways of keeping the triad. No one is suggesting dismantling Minuteman at all.

Dr. DeLauer. That is not what I said.

Senator Levin. The only answer you gave me is you want to maintain the triad.

Dr. DeLauer. I said we want to make it a triad and we want to have a highly accurate capability within the triad. That gives the triad, indeed that land-based leg, a capability against the growing Soviet hard target stockpile, which leads to deterrence.

Senator Levin. Can't you upgrade the Minuteman?

Dr. DeLauer. Not in the same timeframe.

Senator Levin. It all becomes timeframe?

Dr. DeLauer. Yes.

Senator Levin. You can't upgrade the Minuteman in the timeframe?

Dr. DeLauer. No.

Senator Levin. You can't have a complete upgraded Minuteman in the same time as a completed MX installation?

Dr. DeLauer. No, sir.

Senator Levin. We will be happy to check that out. I think you are inaccurate on that one, Doctor. I will be happy to check that out.

The first MX can be installed before the Minuteman upgrade, but the last MX gets installed after the Minuteman upgrade?

Dr. DeLauer. It depends on what are you going to upgrade.

Senator Levin. The balance of the Minuteman III.

Dr. DeLauer. Minuteman III?

Senator Levin. Yes.

Dr. DeLauer. The full force of them?

Senator Levin. 250.

Dr. DeLauer. That is a different number. You still don't have the same number of warheads then. You haven't upgraded an equivalent force.

Senator Warner. Would the Senator define upgrade?

Senator Levin. In the new guidance system, new MX 12-A warhead on the balance of the Minuteman III for a little over half the price. You get about the same number of warheads, somewhat less. You get about the same number. There are lots of way of maintaining a triad. You don't have to upgrade the Minuteman III. You can maintain them.

Of course your answer, if those [deleted] warheads were the difference between a Soviet attack and not, it would be worth it. I would tell you if one warhead was the difference between a Soviet attack, it would be worth $1 trillion.

The question is whether you want to invest $1 trillion in one warhead?

Dr. DeLauer. I am not the invester.

Senator Levin. You are recommending a pretty heavy investment. Would you recommend an investment of $1 trillion to give us one warhead right now?

Dr. DeLauer. No, not now. I don't have to make that kind of estimate.

Senator Levin. You are recommending we invest $16 billion for [deleted] survivable warheads when we can put one more Trident in for $4 billion and get [deleted] more survivable warheads. The only answer you give for that is you want to maintain the triad. You can maintain the triad without investing in MX.

Dr. DeLauer. And 5 years ahead of that.

Senator Levin. You are even exaggerating that.

Dr. DeLauer. No; I am not.

Senator Levin. We will see whether or not your statement of 5 years or 3 years is a more accurate figure.

Dr. DeLauer. Five years.

Senator Levin. There is no window of vulnerability to close. Those 3 years aren't critical. The only thing that will close the window of vulnerability is the Midgetman.

Senator Warner. I think, Dr. DeLauer, in response to the Senator's question, which is a good one in terms of the investment for [deleted] warheads under MX vice [deleted] with one submarine, and there is also the question of response time, namely the submarine, the time within which the President issues the order for the missiles to be fired vice the land-based system, why don't you add that also?

Dr. DeLauer. Senator Levin and I have been doing this to each other for 2 years, Mr. Chairman. He knows all the arguments on one side and my arguments, and I know all of his.

For somebody reading the record, the whole question of the legs of the triad supporting one another is well established. reconfirmed by the Scowcroft Commission. As a matter of fact, my first interchange with the Senator had to do with submarine communications. He was telling me it wasn't necessary to put a low frequency——

Senator Warner. Let us not go back over old ground.

Dr. DeLauer. I feel I ought to set the record straight, Mr. Chairman.

Senator Warner. I should be chairing another hearing somewhere else.

Dr. DeLauer. What is the question?

Senator Warner. The question is, the Senator points out the fact that under the various ratios of survivability, he uses an example that there would be [deleted] MX warheads surviving vice one submarine which would presumably give you [deleted] D–5's.

Dr. DeLauer. [Deleted.]

Senator Warner. I mean [deleted] D–5's, depending on how you load the D–5 warhead.

Dr. DeLauer. That is right.

Senator Warner. I was suggesting that you might incorporate in your response the value to any strategic planner or the President of the United States of the differential in response time for the land system vice the submarine.

Dr. **DeLauer.** I can add to my comment not only to the question of having the accuracy capability in the land-based force, but the positive command and control that a land-based weapon system provides to the command authority is one that we want to preserve. It is one that is most valuable to him and the one that we should see continued.

As a matter of fact, it is the No. 1 portion of our strategic modernization program which is the whole command and control and communications system to all our forces. It is indeed the highest priority of the modernization program, since the capability to be able to positively command and control land-based forces is a very, very important element of our deterrent posture.

Senator **Levin.** The chairman, as usual, is generous and flexible. I want to ask two more questions.

What is the IOC of Trident II?

Dr. **DeLauer.** IOC of the D-5 missile?

Senator **Levin.** And Trident II?

Dr. **DeLauer.** The IOC of the first Trident boat outfitted with 24 D-5 SLBM's will be 1989.

Senator **Levin.** The IOC of the Trident with the D-5 is 1989?

Dr. **DeLauer.** That is the way we define IOC, which is 24 D-5 missiles on one submarine.

Senator **Levin.** Second, for the record, General Gabriel said the Trident II response is prompt enough. We will compare that part of the record.

Dr. **DeLauer.** Gabriel or Davis?

Senator **Levin.** Gabriel said it, but Davis also said it.

Senator **Warner.** For the record, what is the difference in response time for an operational Trident submarine loaded with D-5's or Trident II with the same missiles vice a surviving land-based MX?

Dr. **DeLauer.** I think it is on the order of [deleted].

Senator **Levin.** Both indicated that is prompt enough. By the way, the issue is not whether we have a land-based leg. That goes to your question whether you want a very good communication system that the land-based leg can give you. We have the Minuteman we can upgrade. The issue is whether we go to the MX, not whether we go to Minuteman III modernization.

Senator **Warner.** Gentlemen, we have some questions which we will submit to be answered for the hearing record.

[Questions with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR JOHN W. WARNER

ICBM MOD

Senator **Warner.** Dr. DeLauer, General Davis stated last week that those SSBNs that were at sea but not on alert would not be survivable. You have indicated that only those in port would be destroyed by a Soviet no-warning attack. Would you clarify this?

Dr. **DeLauer.** Deployed SSBNs are defined as those Fleet Ballistic Missile (FBM) submarines that are out-loaded with SLBMs. In addition to the deployed FBM force are those units that are off-line, undergoing overhaul or shakedown training and do not have strategic missiles loaded. For day-to-day strategic operations, a deployed SSBN is assigned any one of three conditions of launch readiness: Alert, modified-alert or non-alert.

Alert status is assigned to those units that are at sea on submerged patrol. Alert SSBNs are considered to be totally survivable.

The status of Modified Alert is normally assigned to those SSBNs that are at sea, proceeding submerged to or from their assigned partol areas. They are in a transitory status, either generating to an Alert posture or coming off patrol and proceeding to port for upkeep and crew rotation. Because they are at sea, they are regarded as totally survivable.

Those SSBNs that are in-port are assigned a status of Non-Alert; they are the only SSBN units that are not considered to be fully survivable in a surprise nuclear attack.

"MX FOLLOW-ON" REDUCES REQUIREMENT FOR OTHER R&D

Senator **Warner.** General Skantze, as a result of the restructuring of the Administration's program for MX follow-on technologies, is it not the case that funds requested for the Advanced Strategic Missile Systems (ASMS)—originally sought to provide a technology base for follow-on missile designs and accessories, such as penetration aids—can be reduced from the $94 million contained in the President's original submission?

General **Skantze.** It would not be appropriate to delete a portion of the requested fiscal year 1984 ASMS funds ($97.5 million) intended to prove technology and do advanced deevlopment of missile subsystems. This work is an integral part of the planned efforts to field a small ICBM. In addition, the ASMS effort is the Air Force's only source of upgrade options to maintain the long-term effectiveness of Minuteman and Peacekeeper.

EFFECT OF TRANSPORTER HARDENING ON SMALL MISSILE SURVIVABILITY

Senator **Warner.** General Skantze, do you agree with Secretary Brown's assertion that the efficiency of the small missile system from the standpoint of survivability would depend upon our ability to develop and deploy a transporter system capable of withstanding 30 pounds per square inch blast overpressures?

If the hardness achievable were to be limited to 10 pounds per square inch hardness, would that compromise the system's survivability?

General **Skantze.** Survivability of the small missile in a mobile mode primarily depends upon two contributing factors. First, survivability can be enhanced by providing large dispersal areas in which to deploy the mobile missile. Soviet reaction would probably be to consider a "barrage attack" of the entire area, due to the uncertainty of finding and destroying a mobile missile. To provide survivability for large numbers of missiles deployed in soft transporters, i.e., protected to only 2–3 psi of overpressure, hundreds of thousands of square miles of land area will be required to make the soft system survivable to such an attack.

However, if deployment of a mobile system is constrained to smaller dispersal areas, such a barrage attack could be neutralized by protecting the transporter against large overpressures, i.e., 20–30 psi and upward. Thus, if land area is a problem, increasing hardness increases survivability. If obtaining hardness is a problem, survivability can be increased by increasing the dispersal area.

MINUTEMAN III TEST WITH AIRS GUIDANCE SYSTEM

Senator **Warner.** General Skantze, is it not the case that a Minuteman III missile has been flight tested with the MX Advanced Inertial Reference System (AIRS)?

General **Skantze.** An engineering model of an AIRS IMU developed and produced by C.S. Draper Laboratory flew on the Minuteman missile July 16, 1976. Although the results were encouraging, it was not a conclusive test. The AIRS was not guiding the missile but was only flying along to provide instrumentation data to evaluate the NS–20 guidance set. Also, a number of hardware improvements were required subsequent to this laboratory-built engineering model AIRS flight.

Senator **Warner.** Is it not the case that—as a result of performing this test flight—important design work and planning has been performed which would reduce the amount of time necessary to effect a Minuteman improvement program utilizing the AIRS guidance system?

General **Skantze.** The test flight provided valuable information which has already been considered in our assessment that a five-year program is necessary to adapt AIRS to Minuteman. Without the test flight, the development program would take longer.

MX AFTER INTRODUCTION OF SMALL MISSILE

Senator **Warner.** What do you regard as being the role of the MX missile following the introduction of the small missile system

DeLauer/Skantze. The small missile, if a decision is made to deploy it, would provide a flexible and survivable complement to the Peacekeeper (MX) and Minuteman forces. The Peacekeeper, when deployed, provides a prompt, responsive countermilitary capability that has hard target destruction and throw-weight flexibility not available from Minuteman or small ICBMs. It would continue to provide such contributions, even after deployment of a small ICBM.

NEED FOR THROW-WEIGHT SUFFICIENCY

Senator **Warner.** General Skantze, on page 12 of its report, the President's Commission on Strategic Forces stipulates that Soviet anti-ballistic missile activities dictate "continued attention to having sufficient throw-weight for adequate numbers of warheads and of decoys and other penetration aids". Do you agree with this statement?

In your view, how does this statement square with the Commission's central tenet that we must move in the direction of a single reentry vehicle delivery system?

General **Skantze.** Yes. The current strategic situation dictates that the U.S. retain the flexibility to deploy the planned number of warheads to hold the Soviet hard target structure at risk while retaining the capability to carry and deploy decoys and other penetration aids. This capability is essential, pending successful arms control negotiations, to avoid technological surprise or abrogation of the ABM Treaty. The development of a small single warhead missile along with arms reduction treaties would give the U.S. the capability to deploy a flexible and stabilizing ICBM in the 1990s.

PEACEKEEPER FUNDING PROFILE

Senator **Warner.** Give side-by-side of 1984 funding profile as submitted for Closely-Spaced-Basing and revised 1984 as envisioned to support Scowcroft recommendations.

Doctor **DeLauer.**

FUNDING PROFILE

[Fiscal year 1982 dollars in millions]

	Peacekeeper/CSB	Peacekeeper/MM
R&D	3,378	2,034
Procurement	2,868	2,536
Milcon	449	72
Follow-on tech	....	604
Total	6,695	5,246

SCOWCROFT VIEWS OF CURRENT TECHNOLOGY FOR BMD

Senator **Warner.** Do you agree with the Scowcroft Commission's conclusion that "applications of current technology offer no real promise of being able to defend the United States against massive nuclear attack in this century?" Do you include in your assessment technology advocated by proponents of the High Frontier system? How about those who favor laser and particle beam defensive systems?

Dr. **DeLauer**/General **Skantze.** With regard to your first question. I cannot agree with the statement out of context. The Scowcroft Commission report also stated, "Substantial progress has been made in the last decade in the development of both endo-atmospheric and exoatmospheric defenses. * * * An easier task is to provide ABM defense for fixed hard targets, such as ICBM silos. However, even this will be a difficult feat if an attacker can use a large number of warheads against each defended target. The effectiveness of such a defense could be enhanced by some types of bunching and close spacing of the defended targets, in order to reduce the number of ABM systems required. It could also be enhanced by having multiple shelters for each missile and preferentially defending only the shelter containing the missile while facing an attacker with the need to attack all shelters." Inherent in their discussion is the fact that such defenses against ICBM silos in turn provide a degree of deterrence and protection for the United States.

With regard to your last two questions, we have embarked upon an extensive study effort to define a long-term (now through circa 2000) R&D program plan that will define the development and validation of technologies necessary to defend against ballistic missiles. As you know, this study was directed by President Reagan earlier this year. The output of this study will provide a basis to better answer the question in general and specifically address the technical aspects of High Frontier, lasers and particle beams.

AIRS GUIDANCE SYSTEM

Senator **Warner**. Is it not the case that the AIRS Guidance System has been flown on the Minuteman III to test this guidance device? Doesn't that suggest less time would be required to deploy an upgraded Minuteman?

General **Skantze**. An engineering model of an AIRS IMU developed and produced by C. S. Draper Laboratory flew on the Minuteman missile July 16, 1976. Although the results were encouraging, it was not a conclusive test. The AIRS was not guiding the missile but was only flying along to provide instrumentation data to evaluate the NS-20 guidance set. Also, a number of hardware improvements were required subsequent to this laboratory-built engineering model AIRS flight. The test flight provided valuable information which has already been considered in our assessment that a five-year program is necessary to adapt AIRS to Minuteman. Without the test flight, the development program would take longer.

SMALL MISSILE IOC

Senator **Thurmond**. If the Congress elects to terminate the MX program and direct the same resources to a small single warhead ICBM, what is the earliest possible date that initial operating capacity could be reached?

Dr. **DeLauer**. The date would vary depending on how much technology is involved and the requirements for an initial operational capacity (IOC). We are currently planning a small missile development effort in conjunction with the Air Force that identifies an early 1990s IOC. This will allow for vigorous competition to ensure adequate survivability against current and projected threats and minimize both the acquisition and O&M costs.

Senator **Warner**. Thank you, gentlemen.

[Whereupon, at 10:50 a.m., the subcommittee adjourned, subject to call of the Chair.]

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